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THE ANTS OF THE BRITISH SOLOMON ISLANDS.

BY WILLIAM M. MANN.

WITH TWO PLATES.

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No. 7.— *The Ants of the British Solomon Islands.*

BY WILLIAM M. MANN.

INTRODUCTION AND ITINERARY.

DURING the years 1915–1916 the writer was the holder of a Sheldon Travelling Fellowship of Harvard University and funds from this were used in zoölogical exploration of certain South Sea Islands. Later the Museum of Comparative Zoölogy contributed a sum of money, which, with funds from other sources, enabled me to continue the work and to visit the British Solomon Islands, where I remained from 19 May to 24 November, 1916.

Upon my arrival and throughout my entire stay I was the recipient of so many courtesies and so much aid from so many people that to enumerate them would be practically to make a census of the white population of the islands.

Some time was spent on Florida, where Dr. O'Sullivan, the port doctor, welcomed me to his home at Tulagi and stored my specimens and supplies while I was in the out-islands.

Malaita was next visited. Mr. W. R. Bell, with whom I stayed at Auki, the government station of which he is in charge, made many excursions with me into the little known interior and some months afterward, on my return to Auki, we crossed the island, camping one night in the mountains, where, at an altitude of about 2,300 feet, we encountered a number of species not found elsewhere, among them *Crematogaster* (*Rhachiocrema*, subg. nov.) *wheeleri*, sp. nov. and the curious *Polyrhachis* (*Dolichorhachis*, subg. nov.) *malaënsis*, sp. nov. The native constabulary who accompanied us, necessary companions in the forests of Malaita, proved to be excellent collectors and to them both on Malaita and San Cristoval, I am indebted for many valuable specimens.

Mr. Symmington, Manager for the Lever's Pacific Plantations Company, permitted me to travel on the KOBILOKO, a small steamer that plies between certain of the islands, and this made possible a five days stop at the remote Santa Cruz Group. Here Mr. Jack Mathews arranged with the natives so that I was able to collect not only unmolested by, but with considerable help from them. On the return of the KOBILOKO I landed at Ugi, the type-locality for many of the Solomon Island species, and remained there for several weeks at Pawa as guests of Messrs.

Hall and Dickerson; also visiting the nearby island of Malapaina, one of the Three Sisters Group, and staying there with Mr. Ireland, a young Australian engaged in clearing the forests for a new plantation. At Pamua, on the mainland of San Cristoval, I lived with the Rev. Mr. Nind, at the school maintained there by the Melanesian Mission. Their steamer, the SOUTHERN CROSS called and through the courtesy of the Rev. Mr. Wood, Bishop of Melanesia, I received a passage to Wainoni Bay. Here the two French priest-missionaries, Fathers Moreau and Babbiau, cared for me. For their great kindness, especially when stricken with fever, I am deeply grateful.

Mr. Harry Jacobsen, a planter and trader, took me from Wainoni Bay to Star Harbor, his station at the extreme eastern end of the island, and made numerous trips with me along the coast and to the neighboring island of Santa Anna, and afterwards up the coast to Keri Keri, where I met Captain F. M. Campbell, Director of native constabulary, and returned to Tulagi with him. Then Mr. Abbott, Government Labor Agent, invited me to accompany him on his launch to the Russell Islands. In New Georgia I lived with Mr. Norman Wheatley, Nestor of South Sea traders, travelled about the beautiful, though gruesomely historic, Rubiana Lagoon with him and also stopped at Rendova for a few days with Mr. Palmer.

Toward the end of my stay, I collected for three weeks at Fulakora on the western end of Ysabel, living at the plantation of Mr. Charles Bignell, a gentleman who spent much time collecting with me and after my departure sent me a considerable number of interesting species.

To all of these gentlemen and to others, I am greatly indebted for making my stay in the Solomons not only safe and successful, but immensely enjoyable. Without their aid I could have done comparatively little collecting.

The greater part of the country is heavily wooded and, as might be expected, a large proportion of the species are arboreal. The character of the fauna changes markedly when the forest is cleared and in the plantations one is impressed by the scarcity of endemic forms, which have been supplanted by introduced species. Every log or board on the ground shelters fornicaries of tropicopolitan ants, chiefly *Plagiolepis longipes* and *Prenolepis longicornis*. A few Oriental species, as *Oecophylla smaragdina* and *Technomyrmex albipes*, are apparently able to hold their own and *Camponotus reticulatus bedoti* is not uncommon in cleared land, but most of the native species are doomed as

soon as the forest goes. The above tramp species do not usually wander far into the forest, though *Plagiolepis longipes* is sometimes seen there under conditions noted hereafter.

It is interesting that *Solenopsis geminata rufa* has not yet established itself in the Solomons. Neither does it occur in Fiji, though it is common in both New Guinea and in Tahiti.

One faunal peculiarity is the prevalence of white-tipped antennae among the ants, species of three genera Wheeleripone, *Crematogaster* (*Rhachiocrema*) *wheeleri* and *Polyrhachis* (*P. ulysseae*, *P. osae*) having this unusual, among ants, coloration.

The ant fauna of the Solomons has been comparatively untouched. Mr. W. W. Froggatt, who visited the islands for the purpose of studying the insects of the coco-nut palm, collected a few species at Tulagi, on Guadalcanar, and in the Russell Group. These, recorded by Forel in a paper on Australian ants (Rev. Suisse zool., 1910, 18, 1-94), are the only species listed from the Solomons. In the present paper are noted 144 forms, representing forty-three genera.

Ants abound in the forests. Along the paths one sees species of *Polyrhachis* of the *relucens* or *daemeli* groups on nearly every tree and shrub. In the eastern islands the leaves of single trees sometimes hold a half dozen nests of such forms as *Polyrhachis osae* and *P. mucronata malaensis*. A rotten log will almost certainly contain colonies of *Vollenhovia pedestris*, *Phopalothrix malua*, *Myopopone castanea*, or *Rhytidoponera froggatti*. On the beaches if one leans against a tree he will probably be covered by swarms of *Iridomyrmex myrmecodiae* which run about and attempt to bite in an annoying manner very similar to species of Azteca in the American tropics; among trees that have recently been felled, *Oecophylla smaragdina nitida* makes collecting a misery by its numbers and aggressiveness.

The last few days of collecting yielded a number of genera and species not taken previously and I am convinced that the present list contains only a small part of the species that occur in this island group. The interior especially will be productive of many additional forms of great interest, for with the exception of the few that I list from the interior of Malaita, the ant fauna of the highlands is absolutely unknown.

As far as the zoogeographical position of the Solomons is concerned, the distribution of the ants merely corroborates the opinion of Wallace who, (The Malay Archipelago, 1869, 2, p. 435) on the basis of the presence of crimson lorises and of cockatoos allied to those of New Guinea, assumes that the fauna is a continuation of the Papuan.

Of the forty-three genera recorded in the present paper, none are peculiar (Wheeleripone occurs also in Fiji). Typical Australian genera are represented only by Rhytidoponera, Podomyrma, Turneria, and Opisthopsis, each with a single species.

The remaining genera are all widely distributed in Indo-Malaya. Of these the following terminate their eastward distribution in the Solomons:—Myopopone, Platythyrea, Cryptopone, Ectomomyrmex, Crematogaster, Myrmecina, and Acropyga.

Other genera, as Euponera, Anochetus, Vollenhovia, Tetramorium, Pristomyrmex, Triglyphothrix, Oligomyrmex, and Polyrhachis are well developed in the Papuan region, but extend eastward of the Solomons in only a few species, which are usually widely distributed.

\*Two species of wide distribution, *Leptogenys diminuta* and *Oecophylla smaragdina*, terminate their natural distribution in the Solomons, for though the latter species occurs in Samoa, it is of recent introduction.

In general the Solomon Island ant fauna is Papuan, without peculiar forms, and lacking a number of typical Papuan genera. The Santa Cruz ant fauna is similar to that of the Solomons proper and may be considered as the eastern limit of the Papuan subregion.

The nearby island of Vanikoro has not been explored entomologically but forests of Araucarians are known to occur there. This is then the most northwestern locality for the Araucarinae and the island containing it probably belongs to the Melanesian subregion, so a line between the two islands separates the two subregions.<sup>1</sup>

In the preparation of this paper, I have been greatly assisted by Prof. W. M. Wheeler of Harvard University, who has generously permitted me to use his collection for comparison and has aided me in certain determinations and in other ways. Prof. Carlo Emery, of Bologna has kindly compared a number of species with types in his collection.

Most of the figures of new species were made by Dr. R. McEwen.

<sup>1</sup> The Melanesian subregion, (including Vanikoro, the New Hebrides, New Caledonia and Fiji), like the Chilean and the Malagasy, might be described as a biological conservatory, where types once tropicopolitan have been isolated and preserved, free from invasion. It is distinct from Papuaasia though the presence of numbers of these relicts, and in negative characters, lacking the majority of the plant and animal groups characteristic of the latter subregion. The absence of any group which had its origin in this region is an important negative character.

## FORMICIDAE: PONERINAE.

## 1a. CERAPACHYS (SYSCIA) PUSILLA Emery, subsp. PAWA, subsp. nov.

A single worker found beneath a stone agrees with Emery's description of *papuana* from New Guinea, except that it is smaller and less opaque and has the postpetiole distinctly longer than broad for which reason I refer it to the closely related *pusilla* Emery, also from New Guinea, which differs from *papuana* in the same characters.

The subspecies *pawa* differs from *pusilla* only in sculpture. The head is irregularly and coarsely punctate and rugose. The thorax is shining and more regularly punctate and not rugose.

The legs are shining.

Ugi: Pawa.

## 2. CERAPACHYS (CERAPACHYS) TERRICOLA, sp. nov.

*Worker.* Length 3.5 mm.

Head a third longer than broad, as broad in front as behind, with moderately rounded sides, nearly rectangular occipital corners and feebly concave occipital border. Mandibles short and stout, blades minutely denticulate. Frontal lobes short, narrowly separated. Anterior border of clypeus almost straight. Antennal scopes thick, club-shaped, extending more than half the distance to



FIG. 1.—*Cerapachys (Cerapachys) terricola* Mann. Worker.

occipital corners; first flagellar joint as long as broad; joints 2-11 transverse; apical joint as long as the six preceding joints and at the middle one and a half times as thick as the penultimate. Eyes large, convex, located at sides of head a little anterior to the middle. Thorax two and a half times longer than broad; sides straight, anterior border evenly rounded and narrowly margined;

in profile convex above. Epinotal declivity flat, margined above and at sides. Petiole subrectangular, a little broader than long, margined in front, sides feebly rounded, anterior surface flat; in profile, about as long as high, rounded above, ventral tooth large and triangular. First gastric segment similar in shape to petiole, about a third broader; remainder of gaster less than twice as long as broad.

Mandibles sparsely punctate and shining. Head, thorax, and gaster with scattered foveolate punctures, which are more abundant and largest on the head, thoracic pleurae, and petiole, becoming contiguous on the metapleurae, more sparse on the pronotum and gaster, and lacking on epinotal declivity. The interspaces smooth and shining. Legs and antennae finely punctate and subluceid.

Head and body with fine, long, erect hairs; legs and antennae with shorter, stiffer, and semierect hairs. Blades of mandibles with brush of short pile.

Color piceous; mandibles, legs, and antennae ferruginous, tibiae partly fuscous.

*Male.* Length 3 mm.

Head, excluding eyes, longer than broad, narrowly rounded behind; cheeks short. Mandibles very similar to those of worker. Clypeus as in worker. Antennae short, scapes club-shaped, not extending to occipital corners; funicular joints longer than broad, gradually increasing in thickness toward apex; apical joint a little longer than the two preceding together and but slightly thicker than the penultimate. Eyes and ocelli large and convex. Promesothorax in profile strongly convex, without Mayrian furrows. Mesometanotal suture straight, distinctly impressed, scutellum convex. Epinotum convex, without distinct base and declivity. Petiole and first gastric segment similar to those of worker. Gaster thick. Genitalia prominent.

Punctuation similar to that of worker, but more feebly shining. Pilosity as in worker.

Wings deeply infuscated and densely covered with short suberect hairs. Stigma dark fuscous.

Piceous; mandibles and antennae fuscous; tibiae dark testaceous.

Three Sisters: Malapaina (Type-locality). Ysabel: Fulakora.

Described from several workers and males taken from a colony situated in wet earth beneath a stone and from two workers found running on the ground. *Type*.—M. C. Z. 9,151.

The distinctly, though finely, denticulate mandibular blades and the more slender antennae distinguish *terricola* from *inconspicua* Emery. In the latter species the second funicular joint is very small; the funiculus robust, with the club barely longer than the four preceding joints. In *terricola* the club is as long as the six preceding joints.

## 2a. CERAPACHYS (CERAPACHYS) TERRICOLA, subsp. TULAGI, subsp. nov.

*Worker.* Length 3.5-4 mm.

Differing from typical *terricola* in its larger size and in the sculpture of the metathoracic pleurae and sides of petiole, where the punctures are more shallow and sparse and not confluent. In *terricola* the punctation is dense, the sides of the petiole being almost rugose in appearance.

*Male.* Length 3.8 mm.

Similar to male of typical form but conspicuously larger in size.

Florida: Tulagi.

One small colony found beneath a stone.

## 3. CERAPACHYS (CERAPACHYS) INCONSPICUA Emery.

Term. fuzet., 1902, 25, p. 152, ♀.

Ysabel: Fulakora.

A solitary worker which agrees with Emery's description was found running on the ground.

## STIGMATOMMA subgen. FULAKORA, subgen. nov.

This subgenus is proposed for those species of *Stigmatomma* that have the frontal lobes approximate, instead of widely separated.

*Type.* — *S. (FULAKORA) CELATA*, sp. nov.

*S. armigerum* Mayr, *chilense* Mayr, *saundersi* Forel, and *minuta* Forel should be included in *Fulakora*.

## 4. STIGMATOMMA (FULAKORA) CELATA, sp. nov.

*Worker.* Length 2.9 mm.

Head a little longer than broad; occiput shallowly concave; sides nearly straight in front, broadest at clypeus, behind somewhat rounding into moderately narrow occipital corners; a feeble suture extending from occiput to



frontal lobes; clypeus in front, armed with six stout denticles. Mandibles a little less than two thirds as long as head, the thickened basal portion with five teeth, the apical three bifid; the slender apical portion with one small denticle and two minute ones near apex. Frontal lobes convergent, the carinae short, feeble, and diverging behind. Scape short, extending less than two thirds the

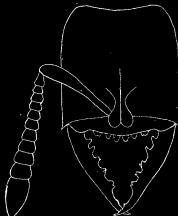


FIG. 2.—*Stigmatomma (Fulakora) celata*  
Mann. Worker. Front view of head.

distance to the occipital corners; all the funicular joints except the first and apical distinctly transverse; apical joint nearly twice as long as broad. Eye distinct, but minute, located at sides of head posterior to the middle. Thoracic dorsum and epinotum flat. Prothorax a little longer than broad, evenly rounded in front; sides parallel; disc at middle with a very feeble longitudinal carina. Promesonotal suture strongly impressed. Mesonotum nearly twice as broad as long, sides evenly rounded. Epinotum one and one third times longer than broad, broadest behind, sides convex at anterior half, then straight; declivity transverse, strongly margined at sides, disc shallowly concave. Petiole narrower than first gastric segment; from above a little

broader than long, rounded, in front, with nearly straight sides; from the side slightly longer than deep; ventral process small, rounded in profile. Gaster slender. Legs stout.

Sublucid throughout. Mandibles with short coarse rugae and stiff erect hairs. Scares, head, thorax, and petiole densely granulose, the head more so than the rest, with short, semierect pilosity. Petiole, gaster, metathoracic pleurae, and legs punctate, similar to, but more shallow than, the rest of the body; the pilosity of the gaster becoming dense toward apex.

Color rufotestaceous; the head a little darker; pilosity yellowish white.

Described from workers taken with larvae and pupae from small colonies nesting in humid forests beneath stones, on Ysabel (Fulakora Type-locality), and Malaita (Auki) and from Tulagi, Florida, and Wai-ai, San Cristoval. The specimens from Tulagi and Wai-ai are darker than the others. *Type*. — M. C. Z. 9,152.

Pupae entirely naked.

The larva is covered with fine, white, erect hairs and is very similar to

that of *S. pallipes*, described and figured by Wheeler (Biol. bull., 1900, 11, p. 61, fig. 8) but rather more slender.

5. *AMBLYOPONE LEVIDENS* Emery.

Ann. Mus. civ. stor. nat. Genova, 1887, 25, p. 448, ♀.

Malaita: Interior near Fourafi.

A single female agrees with Emery's description.

6. *MYOPOPONE CASTANEA* (F. Smith).

*Amblyopone castaneus* F. Smith, Journ. proc. Linn. soc. London. Zool., 1861, 5, p. 105, pl. 1, fig. 6, ♀.

Santa Cruz: Graciosa Bay. San Cristoval: Wai-ai, Star Harbor. Florida: Tulagi. Ysabel: Fulakora. New Georgia: Lambeti.

My specimens belong to the typical form, which is widely distributed in the Papuanian and Oriental regions and occurs also in Australia.

It nests in rotten or semirotten wood, always where there is plenty of moisture. The workers are very timid and highly sensitive to and repelled by light.

7. *PLATYTHYREA MELANCHOLICA* (F. Smith).

*Pachycondyla melancholica* F. Smith, Journ. proc. Linn. soc. London. Zool., 1864, 8, p. 71, ♀.

Santa Cruz: Graciosa Bay.

One worker.

8. *RHOPALOPONE MALAENSIS*, sp. nov.

*Worker.* Length 2 mm.

Head about a third longer than broad; sides slightly convex; occipital angles narrow, margin feebly concave. Clypeus broadly rounded in front, the surface convex. Frontal lamellae small, widely separated. Mandibles rather slender, the blades with very minute teeth. Antennal scapes extending almost to the occipital corners; funicular joints 4-9 slightly transverse. Eyes small, but distinct, situated at sides of head a little in front of the middle.

Promesothorax in profile slightly convex; from above, narrowest behind, broadest in front of middle, with rounded sides and anterior border. Promesonotal suture obsolete. Mesoepinotal suture barely discernible. Base of epinotum quadrangular, nearly as broad as long, with straight sides, the surface convex; declivity flat, with slightly margined sides. Petiole more than twice as broad as long, narrowest in front, in profile deeper than long, rounded above. First gastric segment twice as broad as petiole; a little longer than the second segment. Legs stout.

Head, thorax, petiole, and gaster sublucid, densely pitted with coarse irregular foveae which are narrowly separated, so that the body has a reticulate appearance; clypeus longitudinally striate. Epinotum strigose with fewer foveae; declivity smooth and shining. Meso- and metapleurae coarsely, irregularly strigose. Mandibles coarsely punctate, shining. Antennae and legs sublucid, finely punctate.

Antennae pubescent. Head and body with fine erect pile. Color dark fuscous. Antennae, mandibles, and legs ferruginous. Pilosity white.

Malaita: Auki.

Described from workers taken from beneath the bark of a dead tree.

*Type*.—M. C. Z. 9,153.

This form approaches *R. epinotalis* Emery from New Guinea, but in that species the petiole is not punctate and the third abdominal segment is subtly punctate. In *malaensis*, the petiole is coarsely punctate, and the third abdominal segment is as coarsely so as the second. It differs also in having denticles, though very small ones, on the mandibular blades. Possibly it should be considered merely a subspecies of *epinotalis*.

The larva is slender, not tuberculate, and uniformly covered with long white hairs, which become fine and flexuous anteriorly, similar to the larvae of *Stigmatomma*.

The pupae are light fuscous in color.

#### WHEELERIPONE, gen. nov.

*Type*.—*W. albiclava*, sp. nov.

*Worker*. Allied to *Stictoponera* Mayr.

Head moderately elongate. Mandibles elongate, triangular, with small teeth on inner border. Frontal lobes small, feebly prominent and widely separated. Clypeus strongly depressed anteriorly and broadly rounded, separated from front by a feeble suture. Eyes prominent and convex, though

small. Antennae slender, 12-jointed; the scape somewhat flattened at base; joints 8-11 forming a very poorly differentiated club. Thorax elongate; unarmed. Prothorax angulate ventrally at sides but without tooth. Promesonotal and mesoepinotal sutures strongly impressed. Petiole from above, subglobose; from the side, rounded above, the anterior surface with a flattened space, anteroventral surface with flattened triangular spine. First gastric segment a little broader, but shorter than the second, armed anteroventrally. The remaining segments short, somewhat deflected, but not as strongly as in *Stictoponera*. Legs slender; anterior tibia with strongly pectinate spine; middle and posterior tibiae each with a single long, simple spine. Tarsal claws large, with a distinct pointed tooth basally on the inner surface.

9. *WHEELERIPONE ALBICLAVA*, sp. nov.

*Worker.* Length 6.5 mm.

Head a third longer than broad, broadest at occiput; sides slightly convex; occipital border shallowly and narrowly excavated. Frontal carinae very short, their lobes small, flat, as far apart as their distance to sides of head. Basal portion of clypeus slightly convex, longer than broad; anterior portion flat, the border evenly rounded. Mandibles large, elongate-triangular, the blades with 10-12 minute, widely separated teeth. Antennae slender, scapes

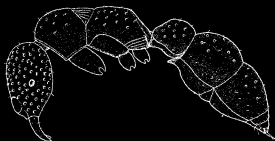


FIG. 3.—*Wheeleripone albiclava* Mann. Worker.

somewhat flattened basally, surpassing occipital angles by a distance of less than their width at apex; first flagellar joint slightly longer than the second and twice as long as broad, second joint a little longer than the third; joints 3-7 subequal, subglobose in shape; joints 8-10 each a little larger than the preceding, 9-10 longer than broad; terminal joint slender, a little longer than

the two preceding joints together. Eyes small, but distinct, convex; located at middle of sides of head. Prothorax slightly convex, broadest in front, humeri narrowly rounded; anterior border rounded, sides nearly straight; ventral border angulate, but not armed. Promesonotal suture strongly impressed. Mesonotum more than twice as broad as long; the surface feebly convex. Base of epinotum slightly convex, little longer than broad; in profile, broadly rounding into the declivity; declivity slightly transverse, the surface convex. Petiole from above subglobose, a little longer than broad; in profile about as deep as long; anterior surface flat and margined at sides; antero-ventral tooth flat, triangular. First gastric segment at base a little broader than the petiole; broader, but shorter than the second segment; the constriction between the two strong. Sting short and thick for two thirds the distance from base, then acuminate, the sides of the thickened basal portion at tip with a fine hair. Legs slender; tarsal claws with a strong tooth.

Shining; occiput, sides of head, and cheeks furrowed, the furrows containing strong, umbulate foveae, sometimes approximate, but not contiguous; middle of front and vertex with seven strong irregular carinae, the inner of which extend to the occipital border and the outer only half the distance; basal portion of clypeus bicarinate, the carinae widely separated, anterior portion densely punctulate. Mandibles feebly shining and shallowly punctate. Antennae sublucid, shallowly punctate. Prothorax with a few shallow punctures on front half of dorsum, elsewhere smooth. Mesothorax with strong carinae, six on the disc longitudinal, four at sides becoming diagonal. Epinotum punctuate at upper part of sides. Metapleurae with five strong, short carinae situated apically. Petiole and first two gastric segments sparsely and shallowly foveolate. Legs sparsely punctate.

Head, body, and antennal scapes with very sparse, scattered erect hairs. Antennal funiculus pubescent.

Ferruginous throughout; funicular joints 1-7 a little lighter; joints 8-11 white. Pilosity black.

#### Ysabel: Fulakora.

Described from four workers found on the ground in the forest.

This very striking ant approaches in general form some of the species of *Stictoponera* but it differs in having very strong thoracic sutures and in not having angulate occipital corners and the gaster is much less deflected at tip. The shining integument, with its curious sculpture and the remarkable coloration of the antennae, ferruginous, with a white club in strong contrast, is quite distinctive. The club is perhaps not more pronounced than in *Stictoponera*, but is strongly accentuated by the color.

It is evidently rare for I searched diligently in the same vicinity without finding a nest or more workers.

10. *WHEELERIPONE LUCIDA*, sp. nov.

*Worker.* Length 3 mm.

Differing from the preceding species in the much smaller size and in the form of the petiole, which in profile is distinctly higher than long, convexly declivous in front, with the flat anterior space very poorly defined.

There are no striae on the mesonotum, which is very smooth and shining. Otherwise it is a miniature of *albiclava* in form, sculpture, and color, but with more abundant and proportionately coarser hairs on the head and body.

Malaita: Auki.

Described from a solitary worker.

11. *WHEELERIPONE CRENATICEPS*, sp. nov.

*Worker.* Length 3 mm.

Head one and a half times longer than broad, nearly as broad in front as behind, with feebly convex sides and narrowly rounded occipital corners; occipital border very shallowly and narrowly concave at middle. Mandibles stout, trigonal, the blades with indistinct widely separated denticles. Clypeus convex basally; anterior border subangulate at middle. Frontal carinae



FIG. 4.—*Wheeleripone crenaticeps* Mann. Worker. Lateral view of thorax and petiole.

strong, parallel for half their length, then slightly diverging and becoming tortuous. Frontal area deeply impressed. Antennal scapes surpassing occipital corners by one fourth of their length; funicular joints 1-2 longer than broad, the first the longest, joints 3-7 very slightly broader than long; joints 8-11 forming a rather slender club with the terminal joint almost as long as the other three together. Prothorax broader than long, rounded in front and sides; in profile convex in front and rather flat behind. Promesonotal suture very feebly impressed. Mesonotum more than twice as broad as long, flat

above. Epinotum as broad in front as behind, one and a half times longer than broad; basal surface flat. Petiole very little broader than long, evenly rounded in front and at sides; posterior border straight; node in profile, higher than long, rounded above, declivous behind and nearly so in front; the anteroventral spine large. First gastric segment broader than long and noticeably shorter than the second. Legs slender.

Head sublucid, the front and vertex with coarse, sinuous carinae, and the spaces between those with coarse, foveolate punctures; sides foveolate, the interspaces smooth and shining. Clypeus bicarinate and finely punctate. Mandibles sublucid; coarsely but shallowly punctured. Antennae more finely punctate. Thorax shining, sparsely punctate, the punctures foveate, but more shallow than those of the head. Petiole and gastric segments punctate even more sparsely and shallowly. Metapleurae transversely striate apically. Legs shining, with sparse punctation.

Head and body with fine erect hairs.

Color dark brown; antennae and legs lighter.

Ysabel: Fulakora.

Described from several workers taken from a colony beneath a stone.

*Type*. — M. C. Z. 9,154.

### Key.

- Length 6 mm. Mesonotum strongly striate; petiole in profile longer than high.....*albiclava* Mann.  
 Length 3 mm. Mesonotum not striate; petiole in profile not longer than high.....1.  
 1. Last four funicular joints white; promesonotal suture stronger; prothorax smooth and shining; anterior face of petiolar node shorter than dorsal surface and broadly rounding into it.....*lucida* Mann.  
 Antennae unicolor; promesonotal suture weaker; prothorax heavily punctate; anterior face of petiolar node longer than dorsal surface and narrowly rounding into it.....*crenaticeps* Mann.

### 12a. RHYTIDOPONERA (RHYTIDOPONERA) ARANEOIDES Le Guillou, var. FROGGATTI Forel.

Rev. Suisse zool., 1910, 18, p. 10, ♀.

*Male*. Length 7-8 mm.

Head, longer than broad, as broad in front as behind, with rounded occiput. Eyes and ocelli very large and convex; cheeks a fifth as long as eye. Clypeus

convex, flattened anteriorly, the border evenly rounded. Mandibles stout, dentate similar to those of worker. Antennal scape extending two thirds the distance to occipital corners. First flagellar joint one fifth the length of the second, which is as long as the scape; joints 3-12 gradually shorter than the preceding; terminal joint slightly longer than penultimate. Thorax robust;

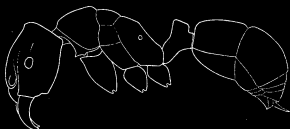


FIG. 5.—*Rhytidoponera* (*Rhytidoponera*) *araneoides froggatti* Forel. Worker.

scutellum prominent, convex, a little broader than long. Declivity of epinotum longer than the base and flattened. Petiole more than twice as long as high, convex above at middle, from above, longer than broad, sides slightly convex. Genitalia not prominent.

Shining, head and thorax irregularly, rugosely sculptured. Epinotum and petiole transversely strigose. First segment of gaster very densely and finely arcuately striate; striae of second segment similar, but more concentric. Mandibles longitudinally strigose.

Head and body with moderately abundant fine, erect hairs.

Color fuscous throughout; mandibles, antennae, and tarsi paler. Pilosity black.

Wings (length 5.7 mm.) infuscated.

Ysabel: Fulakora. San Cristoval: Pamua, Wainoni Bay. Ugi: Pawa. Florida: Tulagi, Maliali. Malaita: Auki, near Fourafi, in the interior. Rendova.

There appear to be no local varieties of this species which ranges throughout the group. Probably it is confined to the British Solomons, for it is very common where it occurs and would have been recorded from further east if found there. I did not find any other species of this genus, which is well developed in New Guinea.

*R. froggatti* lives generally in or beneath hollow logs lying on the ground, sometimes in colonies numbering several hundred but more frequently with less. It is a timid species, hustling its dark brown pupae and the larvae into the nearest shelter and huddling there when



the nest is disturbed. Those individuals not completely hidden remain motionless. It is fond of plant-juices and workers are commonly seen on smaller plants.

Excepting the uniformly larger size and the black color, I can detect no difference that will separate the workers of *froggatti* from *araneoides* described originally from Bougainville.

### 13. DISCOTHYREA CLAVICORNIS Emery.

Term. fuzet., 1897, 20, p. 593, pl. 15, fig. 39, 40, ♀.

A small colony containing three females and a dozen workers was found beneath a log in a swamp near Fulakora, Ysabel. The worker is more active than those species of *Proceratium* and *Sysphincta* that I



FIG. 6.—*Discothyrea clavicornis* Emery. Wing of female.

have seen. The rich brownish red color, with the microscopic silky pubescence give the living insect an elegant, shagreened appearance.

The female measures 2 mm. in length and is rather more robust, but otherwise similar to the worker, except for the usual sexual differences. The eyes are larger and somewhat convex. The ocelli are distinct, arranged in an equilateral triangle. The wings (length 2 mm.) are hyaline and densely covered with fuscous hairs; veins and stigma are fuscous.

### 14. ECTOMOMYRMEX EXARATA Emery.

Term. fuzet., 1902, 25, p. 156, ♀.

I am referring to this species three workers. The mandibles are heavily strigose, with 6-7 teeth on the blades. The third funicular

joint is longer than broad and the remaining joints are as long as broad. In the closely related *E acuta* Emery the third joint is described as being as long as broad, the remaining apical joints, except the terminal are transverse and the mandibular blades have only five teeth. The two species are evidently very closely related and it is probable that Forel's *dahli* from the Bismarck Archipelago is only a subspecies of, if not identical with, *exarata*.

In the specimens before me the first gastric segment is heavily strigose longitudinally and the second segment is much more delicately sculptured, as described in the three forms mentioned above.

Ysabel: Fulakora.

14a. *Ectomomyrmex exarata* Emery, subsp. *aequalis*, subsp. nov.

*Worker.* Length 6-6.5 mm.

Differing from the typical form in its somewhat smaller size and in having the striae of the second gastric segment not appreciably finer than that of the first, though with fewer punctures between.



FIG. 7.—*Ectomomyrmex exarata aequalis* Mann. Worker. Lateral view of thorax and petiole.

Described from several workers taken at Auki, Malaita and one at Tulagi, Florida. The Auki specimens were together and evidently belonged to the same colony, but I was unable to locate the nest. *Type*.—M. C. Z. 9,155.

The species of *Ectomomyrmex* in their timid behaviour are similar to *Bothroponeta*.

15. *EUPONERA* (*MESOPONERA*) *PAPUANA* Viehmeyer.

Zool. jahr., 1914, 37, p. 608, ♀.

*Worker.* Length 6.5-8 mm.

Head one and three fourth times longer than broad, as broad in front as behind; sides subparallel; occipital angles narrowly rounded, the border feebly concave. Clypeus very broadly and prominently carinate, the anterior border angulate at middle. Mandibles long and slender, with eleven stout teeth. Frontal carinae very short; their lobes little dilated and flat; the narrow frontal depression extending less than half the distance to occipital border. Antennae long and slender; scapes surpassing occipital corners by a distance equal to twice their breadth at apex; first and second funicular joints subequal, three times longer than broad; third joint shorter than second and proportionally broader, joints 4-10 longer than broad, subequal in length but increasing in thickness toward apex; terminal joint barely as long as the two preceding joints together. Eyes small, very flat, situated in front of sides of head at a distance of three times their diameter from base of mandibles. Prothorax convex, a little broader than long, narrowly rounded at front and sides;



FIG. 8.—*Euponera* (*Mesoponera*) *papuana* Viehmeyer. Worker. Lateral view of thorax and petiole.

anteroventral corners broadly rounded. Premesonotal suture strongly, but less profoundly impressed than the mesoepinotal. Epinotum in profile as long as prothorax, depressed at middle, with a narrow, transverse impression slightly posterior to spiracles; angle between base and declivity broadly rounded and strongly longitudinally impressed at middle, the sides standing out as rounded margins; declivity flat. Petiole squamiform, twice as high as long, narrowly rounded above; anterior surface convex, posterior flat; submarginate above and at sides of posterior border. Gaster long and slender. Legs very long and slender. Sting slender.

Sublucid. Head, body, mandibles, antennae, and legs finely, reticulately punctate and microscopically pubescent; the punctation and pubescence of

the epinotum and petiolar node less conspicuous than on other parts; pronotum with two long, erect hairs.

Color ferruginous throughout; legs lighter than the rest.

San Cristoval: Wai-ai. Ysabel: Fulakora.

Described from workers taken with larvae from a small colony in a rotten log.

This is the only form of this species described from the Papuan region; a female of an undetermined species from New Guinea has been recorded by Emery, and other species undoubtedly occur there, as *E. melanaria* Emery with its subspecies is found in the Oriental and Malayan regions and occurs also in Australia.

*Euponera papuana* is sharply distinct from the related species in the very long, depressed epinotum, with the longitudinal impression at the apical part of base. It is much larger than *rubra* F. Smith from Singapore and Java, and more slender than *melanaria* subsp. *australis* Forel, from Australia.

16a. *EUPONERA* (*BRACHYPONERA*) *LUTEIPES* Mayr, var. *CROCEICORNIS* Emery.

Term. fuzet, 1900, 23, p. 315, ♀.

Ysabel: Fulakora.

Several workers were found beneath bark.

17a. *EUPONERA* (*TRACHYMESOPUS*) *STIGMA* Fabricius, var. *QUADRIDENTATA* (F. Smith).

*Ponera quadridentata* F. Smith, Journ. proc. Linn. soc. London. Zool., 1859, 3, p. 143.

Santa Cruz: Graciosa Bay. San Cristoval: Wai-ai, Pamua, Wainoni Bay. Ugi: Pawa. Malaita: Auki. Florida: Tulagi. New Georgia: Lambeti. Rubiana Lagoon. Ysabel: Fulakora.

This is as common throughout the Solomons as the typical form is in the Neotropical region. Both species nest in small colonies in rotten wood or beneath bark.

18. *EUPONERA* (*TRACHYMESOPUS*) *SHELDONI*, sp. nov.

*Worker.* Length 3.75 mm.

Head a little longer than broad, with feebly convex sides and narrowly rounded occipital corners; occipital border narrowly but rather deeply concave at middle. Clypeus broadly rounded in front; strongly carinate at middle, the carina produced in front to form a strong, blunt spine. Mandibles with six stout, triangular teeth. Frontal lobes triangular, flat; the frontal impression between extending to occipital border. Antennal scapes not reaching occipital corners; the funicular portion without trace of club; the joints except first and terminal gradually increasing in size, each only slightly transverse. Eyes very minute; located in front of sides at about one fifth the distance from mandibles to occipital corners. Prothorax a little broader than long; rounded above, in front, and at sides. Mesothorax transversely oval; in profile almost flat. Promesonotal and mesoepinotal sutures strongly impressed. Base of epinotum flat, broadest at middle, as broad in front as behind; declivity flat, roundly margined at sides. Petiolar node thick; in profile highest at front, anterior surface concave, apex gradually sloping into the front surface and broadly rounding into the convex posterior surface; from above, rounded at front and sides, straight behind, semicircular in shape; less than twice as broad as long. Basal surface of first gastric segment flat. Constriction between first and second segments strong.

Head, thorax, and epinotum somewhat shining; petiole and gaster more strongly shining. Mandibles sparsely punctate; head and antennae densely punctate. Punctuation of thorax, abdomen, and legs similar to that of head but much more shallow.

Head and body with silky pubescence which is most abundant on head and gaster and lacking on petiolar node; everywhere with sparse, very fine erect pile.

Color brownish yellow; vertex with a small fuscous spot; and tarsi and mandibles a little darker.

San Cristoval: Wainoni Bay.

Described from one worker.

Related to *E. (T.) crassicornis* Emery, known only from a female from New Guinea, but the petiole is much longer than deep and the thorax is not shining and the funicular articles 2-4 are not much broader than long.

Dedicated to Frederick Sheldon, in whose memory the Sheldon Travelling Fellowships of Harvard University were established.

19. *CRYPTOPONE MAYRI*, sp. nov.

*Worker.* Length 2.5-2.75 mm.

Head a little longer than broad, slightly narrowed in front, with moderately convex sides, broadly rounded occipital corners and shallowly concave border. Base of clypeus carinate at middle, anterior border feebly rounded. Front with an acute median carina. Mandibular blades with five stout triangular teeth. Antennae stout, their scapes thickened distally, extending nearly four fifths the distance to occipital corners; club distinctly longer than remainder of funiculus, middle joints strongly transverse; terminal joint longer than the two preceding joints together. Eyes absent. Prothorax slightly convex above, submargined in front and at sides. Mesothorax flattened, transverse. Promesonotal and mesoepinotal sutures distinctly impressed. Base of epinotum flat, about as long as the declivity, which is flat and margined above at sides. Petiolar node thick, two thirds as long as high, anterior surface slightly concave, and narrowly margined at sides; upper surface broadly rounded; posterior surface rather flat, evenly rounding into the dorsal surface. Gaster long and slender.

Mandibles shining, sparsely punctate. Head, prothorax, and antennae densely punctate and opaque. Mesothorax, epinotum, gaster, and legs equally densely but more shallowly punctate and somewhat shining.

Pruinose pubescence and sparse erect pile on head and body.

Yellowish brown; head fuscous.

*Female.* Length 3 mm.

Similar to worker. Eyes large and flat, situated at a distance equal to half their length from front of head. Ocelli small. Wings (length 3 mm.) strongly infuscated.

Ysabel: Fulakora (Type-locality). Ugi: Pawa. San Cristoval: Wai-ai, Wainoni Bay, Pamua.

Occurs in small colonies beneath stones. In the absence of eyes *C. mayri* is distinct from the three described Papuan species and more closely related to *testacea* Motsch. from Ceylon. It differs from that species in having the head longer, with the sides much less convex, judging from Emery's figure (Ann. Soc. ent. France, 1893, 62, pl. 6, fig. 3). *Type.* — M. C. Z. 9,156.

*C. fusciceps* Emery, besides having distinct though minute eyes, is smaller in size, but is otherwise similar in habitus to *mayri*, and evidently resembles the following variety.

## 19a. CRYPTOPONE MATRI Mann, var. FUSCIB, var. nov.

*Worker.* Length 2 mm.

Differing from the preceding only in its smaller size and in the color, being dark fuscous almost black with the anterior border of head, mandibles, borders of gastric segments, and appendages brown.

Ysabel: Fulakora.

Described from two workers.

*Key to Papuanian Species.*

- |  |                         |
|--|-------------------------|
| Eyes absent.....   | 1.                      |
| Eyes present, though minute.....   | 2.                      |
| 1. Length 2.50-2.75 mm. Color yellowish brown. (Solomons) <i>mayri</i> Mann.   |                         |
| Length 2 mm. Color mostly black. (Solomons) <i>mayri</i> var. <i>minor</i> Mann.   |                         |
| 2. Mesoepinotal suture distinct, mandibles 5-dentate. Length 1½-1¾ mm. (New Guinea).....   | <i>fusciceps</i> Emery. |
| Mesoepinotal suture indistinct; head longer. Mandibles with three to four strong teeth.....  | 3.                      |
| 3. Antennal scapes extending less than two thirds the distance to occipital corners; mandibles with three large teeth anteriorly and obtusely dentate posteriorly. Length 1-1.2 mm. (New Guinea).....  | <i>mocsaryi</i> Czabo.  |
| Antennal scapes extending more than two thirds the distance to occipital corners; head a fourth longer than broad; mandibles with four teeth in front, edentate behind. Length 1½-1¾ mm. (New Guinea). |                         |
|  | <i>tenuis</i> Emery.    |

## 20. PONERA GLEADOWI Forel, subsp.

San Cristoval: Pamua.

A unique worker belongs to a subspecies of *gleadowi* near, if not identical with subsp. *decipiens*. Forel from Hawaii.

## 21. PONERA PRUINOSA Emery.

Term. fuzet., 1900, 23, p. 316, 319, pl. 8, fig. 13, 14, ♀.

*Female.* Length 3.5 mm.

Scarcely larger than the worker. The eyes are a little more than a fourth as long as the head, situated at a distance equal to half their length from the

clypeus. The wings (length 3.25 mm.) are faintly infuscated, and densely pubescent; veins and stigma fuscous.

*Male.* Length  $2\frac{1}{2}$  mm.

Head, excluding the eyes, as broad as long, broadly rounded behind. Mandibles feeble, short, triangular, and edentate. Clypeus strongly elevated at middle, the anterior border narrowly concave at middle. Antennae long and slender; first funicular joint scarcely longer than broad, a little more than half the length of the scape; 2nd joint two and three fourths times as long as the first; joints 3-11 subequal, cylindrical; terminal joint one and a half times as long as penultimate. Eyes and ocelli large, the former moderately convex. Epinotum broad; in profile convex basally; declivous portion sloping, with the surface flat discally, broadly rounded at sides. Node shorter than that of worker; anterior face convex, rounded above, declivous behind. Gaster markedly constricted between first and second segments. Genitalia small.

Color and pubescence similar to that of worker; pilosity more abundant. Wings not infuscated, pubescent similarly to those of female.

Three Sisters: Malapaina. San Cristoval: Wainoni Bay, Wai-ai, Pamua. Ugi: Pawa. Malaita: Auki. Florida: Tulagi. Ysabel: Fulakora.

A large series of workers agree closely with Emery's description of workers from New Guinea. It is the commonest species of the genus in the Solomons.

## 22. *PONERA PAPUANUM* Emery.

Term. fuzet., 1900, **23**, p. 319, pl. 8, fig. 10-11, ♀.

Three Sisters: Malapaina. San Cristoval: Wai-ai. Ugi: Pawa. Ysabel: Fulakora.

A small series of workers and females which I refer to this species agree closely with Emery's description.

The wings of the female are strongly infuscated, with the veins and stigma dark.

## 23. *PONERA PALLIDULA* Emery.

Term. fuzet., 1900, **23**, p. 316, 320, pl. 8, fig. 17, 18, ♀.

Malaita: Auki. Ysabel: Fulakora.

A dealated female taken in a colony is barely larger than the worker.



24. *PONERA CLAVICORNIS* Emery.

Term. fuzet., 1900, 23, p. 317, pl. 8, fig. 7, 8, ♀.

Ysabel: Fulakora.

25. *LEPTOGENYS (LEPTOGENYS) TRUNCATUS*, sp. nov.

Worker. Length 6.5 mm.

Related to *L. emeryi* Forel. Head slightly longer than broad, occipital angles broadly rounded, border straight. Frontal carinae short, their lobes small. Clypeus strongly and acutely carinate at middle, projecting in front, the projected portion twice as broad as long with a feebly biconvex border.



FIG. 9.—*Leptogenys (Leptogenys) truncatus* Mann. Worker. Head showing epinotum and clypeus.

Mandibles shorter than sides of head. Antennal scapes slightly surpassing the occipital corners; funicular joints one and three subequal in length and shorter than the second; joints four to ten subequal; terminal joint a little less than twice the length of penultimate. Prothorax broader than long; rounded in front and at sides; in profile only slightly convex above. Mesothorax a little broader than long, the sides and front rounded. Mesopinotal impression profound. Epinotum convex, broadest behind; in profile the basal portion is one and two third times as long as the declivity. Petiole very slightly longer than broad; in profile, slightly higher than long, rounded in front and at top; posterior surface flat. Gaster slender; constriction between first and second gastric segments not strong.

Shining. Front rugulosely punctate, vertex at middle with short transverse and reticulate carinulae; remainder of head, thorax, epinotum (except declivity), and petiole with coarse foveolate punctures which are more dense and confluent on the epinotum than elsewhere. Epinotal declivity transversely striate. Gaster more shallowly punctate. Mandibles and antennae shining, punctate.

Pilosity long and fine, abundant; erect on head and body, semierect on antennae. The femora and tibiae have, in addition to semierect pile, finer and recumbent pilosity.

Color black; legs and antennae lighter; mandibles red. Pilosity yellowish white.

Santa Cruz: Graciosa Bay.

The description is based on a single worker. This species is closely related to *emeryi* Forel from the Bismarck Archipelago, but the clypeus is entirely different, with the middle projection bisinuate instead of trisinate.

## 26. LEPTOGENYS (LEPTOGENYS) FORELI, sp. nov.

*Worker.* Length 6.5–7 mm.

Head a little broader than long, broadest in front, posterior border straight. Mandibles about as long as sides of head, strongly curved basally and then slightly arcuate and of even thickness to tips. Clypeus sharply carinate at middle; median lobe longer than broad, with sides parallel for half their length, then slightly concave and converging to form a triangular pointed tip; lobes on either side of middle broadly rounded. Antennal scapes surpassing occipital corners by about one third of their length; first and third joints subequal; terminal joint shorter than the two preceding joints together. Thorax broadly and shallowly impressed between meso- and epinotum. Base of epinotum convex above, much longer than the declivity (in *emeryi* Forel but little longer) and rounding into it. Petiolar node slightly broader than long, convex above, highest behind, with straight posterior and nearly straight anterior surfaces.

Head and thorax subopaque. Mandibles striate. Head rugose and with coarse foveolate punctures scattered on front and occiput. Pro- and mesonotum coarsely, foveolately punctate, the interspaces finely rugulose and more shining than the rest. Epinotal declivity transversely striate, the base and the petiolar node rugose. Gaster shining, with two sizes of punctures. Scares and legs finely punctate.

Long erect pilosity abundant everywhere.

Black; mandibles, antennae, apex of gaster, tibiae, and tarsi reddish brown.

*Male.* Length 6.5 mm.

Head a little longer than broad, broadly and evenly rounded behind. Mandibles small and spatulate. Clypeus with an elongate tubercle a little

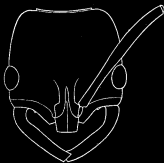


FIG. 10. — *Leptogenys* (*Leptogenys*) *foreli* Mann. Worker. Head showing epinotum and clypeus.

in front of middle; anterior border feebly arcuate at middle. Eyes and ocelli large. Antennae slender; scape twice as long as first funicular joint, which is about as broad as long; remaining joints becoming very gradually shorter toward apex; terminal joint one and one third times as long as the preceding joint, the apical third of it conical in shape. Prothorax in profile a third as long as mesothorax. Mesothorax flattened distally, with strong Mayrian furrows. Scutellum strongly convex, a little broader than long. Epinotum rounded above, disc of the declivous portion flat. Petiolar node in profile as long as high, anterior face convex and broadly rounding into the top, posterior surface flat; from above, as long as broad, rounded in front and at sides, truncate behind. A strong constriction between first and second gastric segments.

Somewhat shining. Head and prothorax striolate rugulose. Mesothorax and scutellum with similar sculpture and strongly and foveolately punctate. Epinotum coarsely rugose. Petiolar nodes coarsely striate at sides and heavily punctate throughout. Gaster finely punctate.

Head and legs with long and silky recumbent hairs. Pilosity abundant; on the gaster longer and less erect.

Color black; mandibles, antennae, geniculae, and tarsi brown. Wings infuscated; veins and stigma brown.

Three Sisters: Malapaina (Type-locality). Malaita: Auki, Simoli (Coll. H. Hall).

Closely related to *emeryi* Forel, from the Bismarck Archipelago, from which it differs in the structure of the epinotum and the clypeus.

*Key to the Papuanian Species of the Subgenus Leptogenys.*

1. Length 12 mm. Head distinctly longer than broad, with scattered piligerous punctures. Postpetiole and gaster rufous. (New Guinea).  
*triloba* Emery.  
Length 5 to 8 mm. Head not or but slightly longer than broad, rugosely punctate. Gaster black, sometimes with bluish reflections, rufous apically. .... 2.
2. Mandibles distinctly longer than sides of head. Petiole much longer than broad. Lobe of clypeus elongate and rounded apically. Length 7.5-8 mm. (Engano) ..... *modiglianii* Emery.  
Mandibles not longer than sides of head. Petiole at least as broad as long. .... 3.
3. Lobe of clypeus broad and trisinate in front. Base of epinotum but little longer than the declivity. Length 5.8 mm. (Bismarck Archipelago).  
*emeryi* Forel.  
Lobe of clypeus not trisinate in front. Base of epinotum much longer than the declivity. .... 4.

4. Lobe of clypeus broader than long, broad in front and slightly concave at middle of border. Length 6.5 mm. (Santa Cruz) . . . *truncata* Mann.  
 Lobe of clypeus longer than broad and pointed apically. Length 6.5–7 mm. (Solomons) . . . . . *foreli* Mann.

27a. *LEPTOGENYS* (*LOBOPELTA*) *DIMINUTA* (F. Smith), subsp. *SANTSCHI*, subsp. nov.

*Worker.* Length 6.25 mm.

Differing from the typical *diminuta* in its somewhat more slender habitus and in the following characters:—the mesoepinotal impression is narrower. The mesopleurae are strongly, densely, and accurately striate. The epinotal base is not as rugose as the declivity, which has regular, transverse, and parallel striae, stronger than in *diminuta* and not interrupted by the lateral tubercles. The latter are much smaller than in *diminuta* so the declivous surface is broader at the base. The petiolar node is higher in proportion to the length.

The front of head has arcuate striae as in *diminuta*. The body, node, and gaster are shining.

*Female.* Length 7.5 mm.

One specimen among a very large series, has the gaster longer and more enlarged than the others and evidently represents the sexual phase. The petiole is very slightly thinner in profile than in the ordinary workers, but otherwise there is no difference in structure.

*Male.* Length 5 mm.

Head, excluding eyes, longer than broad. Mandibles short and bluntly pointed. Clypeus large and convex, the anterior border slightly concave at middle. Antennal scape more than twice as long as the first funicular joint; second funicular joint three and one half times as long as the first; succeeding joints gradually becoming shorter; terminal joint one and five eighths times as long as the preceding. Eyes and ocelli large and prominent. Prothorax little convex above. Scutellum longer than broad. Epinotum convex basally, the declivous portion flat. Petiolar node in profile longer than high; seen from above, circular in shape. First and second gastric segments with a strong constriction between.

Febly shining; head punctate and finely striolate; the striolae surrounding the ocelli coarser than elsewhere. Thorax rugulosely striate, the striae on apical half of mesothorax converging toward the center; those on scutellum longitudinal and finer. Epinotum granulosely punctate. Petiolar node and gaster finely and sparsely punctate and shining. Femora densely and rather coarsely punctate. Clypeus and legs with semierect pile.

Color fuscous; with mandibles, antennae, and geniculae lighter. Wings (length 4 mm.) hyaline, with semierect and moderately long hairs; veins and stigma pale.

Three Sisters: Malapaina (Type-locality). San Cristoval: Wai-ai, Pamua. Ugi: Pawa.

*Type*. — M. C. Z. 9,157. On several occasions I found masses of workers, accompanied by males, swarming on the ground, always in the forest, and numerous larvae and pupae beneath pieces of bark lying on the ground. Probably these were temporary nesting places.

This form was found only in the eastern end of the Solomons.

27b. *LEPTOGENYS (LOBOPELTA) DIMINUTA* (F. Smith), var. *LAEVICEPS* (F. Smith).

*Ponera laeviceps* F. Smith, Journ. proc. Linn. soc. London. Zool., 1858, 2, p. 69, ♀.

Malaita: near Fourafi, in the interior.

A small series of workers taken running in file on the ground, across a trail, evidently belong to this variety.

28. *ANOCHETUS GRAEFFEI* Mayr.

Verh. K. K. zool.-bot. gesellsch. Wien, 1870, 20, p. 961, ♀.

Santa Cruz: Graciosa Bay.

One dead and broken worker of this widely distributed Polynesian species was found.

29a. *ANOCHETUS PUNCTIVENTRIS* Mayr, subsp. *OCEANICUS* Emery.

Ann. Mus. civ. stor. nat. Genova., 1884, 21, p. 378, ♀ (*nec.* Mayr).

San Cristoval: Wainoni Bay, Wai-ai, Pamua. Malaita: Auki. Florida: Tulagi. New Georgia: Maravo Lagoon.

There is some variation among workers from the same colony in the shape of the petiole, which in some specimens is more rounded above than in others. Three females among my specimens have the upper border distinctly emarginate at the center.

30. *ANOCHETUS CATO* Forel.

Mitt. Mus. zool. Berlin, 1901, 2, heft 1, p. 6, ♀.

*Rendova.*

The workers of a single colony taken from a rotten log, agree throughout with Forel's description of this species, which is characterized by its rounded epinotal corners, the short conical projection at the apex of the petiolar node and the structure of the mandibles which are sharply angulate at a short distance posterior to the long, terminal teeth.

The sculpture on the front of head is dense, and extends outward from the frontal carinae.

30a. *ANOCHETUS CATO* Forel, var. *SUBFASCIATUS*, var. nov.

*Worker.* Length 5.-5.25 mm.

Similar to the typical form in size, structure, and sculpture but black in color, with the cheeks, clypeus, mandibles, legs, and a narrow apical band on each gastric segment, brown.

*Female.* Length 7.25 mm.

Epinotum strongly striate transversely; eyes not large; ocelli small. Wings weakly infuscated; veins and stigma brown. Otherwise similar to the worker.

*Male.* Length 4 mm.

Head, excluding eyes as broad as long; the medial portion of vertex on each side with longitudinal sulcae which diverge and extend to the eyes. Mandibles rudimentary. Antennae 13-jointed, rather thick; scape less than twice as long as first flagellar joint, which is a little longer than broad; flagellar joints two to six subequal, only a little more than twice as long as broad; remaining joints, except the terminal, subequal; terminal joint shorter than the two preceeding together; conical. Prothorax evenly rounded at front and sides, its disc not very convex. Scutellum transverse. Epinotum convex; the base rounding into the short declivity. Petiolar node, in profile, wedge-shaped; thin and narrow above; seen from the front, not produced above, but evenly rounded; anterior surface concave; narrowly margined at sides. Pygidium acuminate apically.

Somewhat shining. Head and thorax evenly, rather coarsely punctate. Epinotum rugose. Node and gaster more sparsely punctate.

Finely pilose throughout; antennae densely covered with short stiff recumbent hairs.

Color black. Wings faintly infuscated; veins and stigma brown.

Three Sisters: Malapaina (Type-locality). San Cristoval: Wai-ai. Ugi: Pawa. Malaita: Auki. Florida: Tulagi. Ysabel: Fulakora.  
*Type*.—M. C. Z. 9,158.

30b. *ANOCHETUS CATO* Forel, *ISOLATUS*, subsp. nov.

*Worker*. Length 6.5 mm.

Differing from *A. cato* Forel in the following characters:—the petiolar node in profile is thicker, more conical and blunter at apex; the anterior surface is evenly convex and not constricted before the apex as in *cato*.

The striation on the front of head is feebler and sparser and extends barely past the ends of the frontal carinae and is included between them.

The head, thorax, and epinotum are black, the gaster, legs, mandibles, and antennae, brownish red.



FIG. 11.—*Anochetus cato isolatus* Mann. Worker. Lateral view of thorax and petiole.

*Male*. Length 5 mm.

In addition to its much larger size, differing from the male of *cato* in the structure of the petiolar node, which in profile is nearly as broad as long and much less narrowed above.

The wings are less infuscated than in *cato*.

Santa Cruz: Graciosa Bay (Type-locality). Three Sisters: Malapaina.

Several small colonies were found in the first named locality and solitary workers in the last. *Type*.—M. C. Z. 9,159.

*Key to the Species (Workers) from New Guinea and the Solomons.*

- Mandibular blades at  $\frac{1}{2}$  distance from apex to base with an erect and acute tooth; epinotum bidentate. Length 4½–5 mm. (New Guinea).  
*chirichinii* Emery.  
 Mandibular blades with acute teeth at the middle; epinotum angulate or rounded.....1.
1. Petiolar node strongly transverse; in profile narrow and wedge shaped; seen from front rounded, truncate or concave above; epinotum angulate between base and declivity. Length 3.5–5 mm.....2.  
 Petiolar node in profile conical or subconical; epinotum rounded between base and declivity. Length 6–7 mm.....3.
2. Basal gastric segment not coarsely punctate.....*graeffei* Mayr.  
 Basal gastric segment coarsely punctate.  
*punctiventris* Mayr subsp. *oceanicus* Emery.
3. Striation on front of head not dense; extending only slightly beyond ends of frontal carinae and confined between them; bicolored. (Santa Cruz: eastern Solomons).....*cato* Forel subsp. *isolatus* Mann.  
 Striation on front of head dense, covering most of the front, and extending two thirds the distance to occipital border and not confined between frontal carinae.....4.
4. Ferruginous (New Britain and western Solomons).....*cato* Forel.  
 Mostly black (Solomons).....*cato* Forel var. *subfasciatus* Mann.

## 31. ODONTOMACHUS HAEMATODA (Linné).

Syst. nat., ed. 10, 1758, 1, p. 582, ♀.

Santa Cruz: Graciosa Bay. San Cristoval: Pamua, Wainoni Bay. Three Sisters: Malapaina. Ugi: Pawa. Russell: Yandina. Malaita: Auki, Simoli (Coll. H. Hall). Florida: Tulagi, Maliali. Ysabel: Fulakora.

As abundant in the Solomons as it is in all other tropical countries.

## 32a. ODONTOMACHUS IMPERATOR Emery, subsp. EMERYI, subsp. nov.

*Worker.* Length 14.5–15.5 mm.

Head, and gaster black, mesothorax dark brown; prothorax, epinotum, petiole, mandibles, antennae, and legs yellowish brown, the tarsi darker than the other parts.



Mandibles densely and finely striolate and with elongate punctures. Front of head between frontal carinae longitudinally striate; remainder of front except between eyes and antennae, strongly and concentrically striate; lateral fossae at the anterior border with short striae, but most of the surface smooth and shining; vertex and sides densely striate, the striae becoming more subtle posteriorly and lacking for a short distance from the sides of the medial impression; occiput sparsely punctate and shining. Prothorax transversely and somewhat arcuately striate; meso- and epinotum transversely striate. Base of petiolar node striate. Gaster finely punctate and shining.

*Female.* Length 19 mm.

Mesonotum and scutellum with strong longitudinal striae.

Anterior portion of prothorax, a discal spot, disc of mesothorax and anterior face of scutellum fuscous. The rest as in worker, with the usual sexual differences.

Wing (length 12 mm.) faintly infuscated; veins and stigma brown.

*Male.* Length 12 mm.

Head, excluding eyes, longer than broad, broadly rounded behind. Mandibles rudimentary. Clypeus convex, the anterior border almost straight.

Antennal scape thick, three times as long as the first funicular joint; funicular joints, except the first, very long and slender; the second three times as long as the scape; remaining joints gradually shorter; with the terminal joint less than twice as long as the penultimate. Eyes emarginate on inner border. Ocelli large and prominent. Mesonotum little convex above. Scutellum a little broader than long, somewhat pyramidal in shape, with a short, longitudinal impression at apex. Epinotum slightly convex basally, with a well-marked declivous portion. Petiole two and a half times as long as broad;

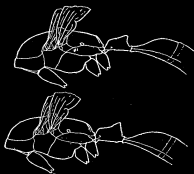


FIG. 12. — *Odontomachus imperator emeryi* Mann. Males. Lateral views showing variations in petiole.

in profile twice as long as high; anterior face concave, narrowly margined at sides; upper surface elevated into a flat projection that is strongly and sharply margined on its posterior face; spiracles on sides situated at tips of strong, elongate tubercles. Gaster long and slender.

Subopaque. Head, pro- and mesothorax, and scutellum delicately striolate and punctate. Epinotum more strongly, obliquely longitudinally striate.

Petiole densely and microscopically punctate. Gaster shining and finely punctate.

Head, thorax, and gaster with short and subappressed golden pubescence and a few longer erect hairs.

Color yellow. Wings faintly yellowish; veins pale.

Florida: Maliali (Type-locality). Ysabel: Fulakora.

Differing from *imperator* subsp. *rufithorax* Emery in color, not having the thorax and epinotum "rouge sanguin," and in the sculpture of the head; and from subsp. *opaculus* Viehmeyer, in color.

The yellow male is very Ichneumon-like. The two specimens, taken from the same colony, show a marked difference in the structure of the petiolar node. In one the dorsal surface gradually slopes to and up the sides of the triangular projection; in the other there is an angle between the two. The lateral tubercles on the node are unusually large.

Several colonies were observed. They were in dense forest; the nests were in the ground among the roots of trees and contained large numbers of workers. The workers are less active than *haematoda* and not as aggressive. *Type*.—M. C. Z. 9,160.

33a. *ODONTOMACHUS MALIGNUS* F. Smith, subsp. *TUBERCULATUS* Roger.

Berl. zeitsch., 1861, 5, p. 28, ♀.

Santa Cruz: Graciosa Bay. Malaita: Simoli (Coll. H. Hall).

A large series of workers agree with Roger's description of *tuberculatus* in having the mesonotum longitudinally striate. Smith described *malignus* as having the mesonotum transversely striate, so this is evidently a distinct form of at least subspecific value.

It is a beautiful ant, bright ferruginous in color and distinct from other species of *Odontomachus* in having the vertex bituberculate. The head is constricted behind, but is proportionately smaller and shorter than in other species belonging to the *hastatus* group.

I found the species only once, at Graciosa Bay, where workers were

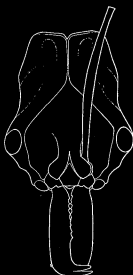


FIG. 13.—*Odontomachus malignus tuberculatus* Roger. Worker. Front view of head.

moving in and out of the crevices of a large block of coral on the beach. Mr. Harry Hall, who brought me specimens from Simoli on South Malaita, states that he found it there nesting under the same conditions.

#### MYRMICINAE.

##### 34. SIMA (TETRAPONERA) HUMEROSA Emery.

Ann. Mus. civ. stor. nat. Genova, 1900, 40, p. 674, ♀.

Ysabel: Fulakora.

##### 35. PHEIDOLE (PHEIDOLACANTHUS) BELLI, sp. nov.

*Worker.* Length 2.25 mm.

Head about as long as broad, with convex sides and nearly straight occipital border. Mandibles with ten small teeth. Clypeus convex; anterior border broadly rounded. Antennal scapes surpassing occipital corners by about one fifth their length; first funicular joint longer than the two succeeding joints together; joints two to eight a little longer than broad; club slender, slightly shorter than the remainder of funiculus. Eyes small, convex, situated a little in front of middle of sides of head. Pronotum flattened at middle,



FIG. 14.—*Pheidole (Pheidolacanthus) belli* Mann. Worker.

armed with a pair of very long and slender spines that extend outward and forward and are rather strongly curved downward at tips. Base of epinotum as long as declivity, flat; epinotal spines as long as those of pronotum, extending outward and backward and rather strongly curved downward at tips. Petiole long and slender; node in profile triangular, gradually sloping into the pedicel; from above, as long as broad, with the sides subconulate. Post-petiole longer than broad, with slightly convex sides. Gaster long and rather narrow. Legs long and slender.

Shining throughout, and smooth, except for very fine scattered punctures on head and thorax and delicate rugulae on apical part of mesonotum; base of first gastric segment with very broad and shallow foveolate punctures.

Sparse, long, erect pile scattered on head, body, and appendages.

Black; mandibles, antennae, and legs dark reddish brown. Pilosity dark.

Malaita: near Fourafi, in the interior.

Described from one worker.

This species, which is dedicated to Mr. W. P. Bell, Resident Commissioner of Malaita, resembles *P. flavothoracica* Viehmeyer but differs in having the thoracic and epinotal spines more slender and strongly curved, in the structure of the petiole and in color.

I follow Viehmeyer in considering the above species as belonging to the subgenus *Pheidolacanthinus*, although it has 12-jointed antennae. From Smith's description and figure of the genotype (*P. armatus*) that form is merely a *Pheidole* allied to the better known *P. sexspinosa* Mayr. and belonging to a group of species with armed pronota that may be considered of subgeneric rank.<sup>1</sup>

### 36. *PHEIDOLE* (*PHEIDOLACANTHINUS*) *SEXSPINOSA* Mayr.

Verh. KK. zool.-bot. gesellsch. Wien, 1870, 20, p. 977, ♀ 2.

Santa Cruz: Graciosa Bay. San Cristoval: Wai-ai, Wainoni Bay.  
Malaita: Auki. Ysabel: Fulakora.

#### 36a. *PHEIDOLE* (*PHEIDOLACANTHINUS*) *SEXSPINOSA* Mayr, var. *FUSCESCENS* Emery.

Term. fuzet., 1900, 23, p. 323, ♀ 2.

Florida: Tulagi.

### 37. *PHEIDOLE* (*PHEIDOLACANTHINUS*) *ERATO*, sp. nov.

*Soldier*. Length 3.5 mm.

Head large, nearly twice as broad as pronotum, a little longer than broad, with slightly convex sides, rounded occipital corners, and narrowly and deeply

<sup>1</sup> In response to my request to examine the type of *Pheidolacanthinus*, Mr. Horace St. J. Donisthorpe writes as follows:—

"Smith's type of *Pheidolacanthinus armatus* is not in the British Museum. As however it is at Oxford, I have got Prof. Poulton to examine it for me and he reports that the antennae are 12-jointed."

impressed border; transverse impression of vertex strong. Mandibles stout, bluntly dentate apically; outer border a little concave in front of middle. Clypeus flat, its borders poorly defined, carinate, concave at middle of anterior border. Frontal area deeply impressed. Frontal carinae divergent, as long as the scape and bordering a moderately well-defined scrobe. Antennal scapes extending a little more than half the distance to occipital corners. Club slender, funicular joints longer than broad. Eyes small and convex, situated a little in front of anterior third of sides.

Promesonotum convex. Pronotum with a pair of spines pointing upward and outward, about two thirds as long as width of pronotum, thick basally and acuminate at tips. Mesonotum transversely ridged and with two small denticles. Epinotum with a narrow margin between basal and declivous surfaces; both surfaces concave; spines twice as long as their distance apart at base, only slightly divergent and curving a little backward, angulately denticulate at anterior third. Petiolar node with flat anterior and concave and margined posterior surfaces; impressed at upper border, sides elevated and bluntly triangular. Postpetiole a little broader than long; broadest in front, with rather prominent, bluntly angulate anterior corners.

Moderately shining, except gaster, which is subopaque. Mandibles shining, with coarse scattered punctures. Sides of clypeus striate. Head with coarse irregular striae extending as far as tips of scapes, intervening spaces rugulose, vertex, occiput, pronotum, and mesonotum very coarsely rugose-striate. Scrobe granulate. Base of epinotum finely and transversely striate. Postpetiole with broad, longitudinal sulci. First gastric segment very densely striate and punctate throughout; granulate basally; second and third segments densely punctate. Legs smooth and shining.

Scattered, erect, yellow hairs present on head, body, and appendages.

Color brownish red, mandibles red. Legs yellow.

*Worker.* Length 2 mm.

Head as long as broad, rounded at sides and behind. Mandibles 7-dentate. Clypeus flat, broadly rounded anteriorly. Antennal scapes surpassing occipital corners by more than one fourth their length; funicular joints two to seven about as broad as long. Pronotum flat, pronotal spines slender, as long as their distance apart at base, directed forward and outward and slightly curved downward. Epinotum concave between the spines, which are twice as long as distant apart at base, erect and rather strongly curved backward. Petiole four times as long as broad; node feebly margined in front and sides. Postpetiole longer than broad, broadest behind, with slightly convex sides.

Mandibles shining. Head subopaque, granulosely punctate with a few fine longitudinal striae on front and cheeks. Promesonotum punctate similarly to head, but more shallowly, with striae more abundant and more shining. Epinotum subtly punctate and shining. Petiole, postpetiole, gaster, and legs shining.

Very fine, yellow pile scattered throughout.  
Uniformly yellow.

*Female* (deälated). Length 4.50 mm.

Head about as broad as long; moderately concave behind at middle. Furrow of vertex shallow. Front with a deep pit anterior to median ocellus. Eyes small, situated at sides in front of middle. Pronotum with short, stout, triangular spines. Epinotal spines a little shorter than their distance apart at base, stout. Petiole shorter than in the soldier; node similar to that of soldier but with the lateral angles more rounded. Postpetiole twice as broad as long, broadest in front.

Sculpture of head similar to that of soldier; scrobe coarsely granulose. Mesothorax longitudinally rugosely striate. Scutellum rugose. Epinotum with fine oblique striae. Petiole, postpetiole, and gaster with sculpture similar to that of soldier.

Pilosity as in soldier.

Color dark ferruginous, with the legs paler.

Ysabel: Fulakora.

Described from a single soldier, a female, and two workers.

The almost opaque gaster, with the second and third, as well as the first segment, densely punctate, and the color separate *erato* from *tetracantha* Emery. Judging from Emery's description *tetracantha* has shorter epinotal spines. The two forms are closely related; the difference may be only subspecific. *P. singularis* Smith has the gaster similarly punctate, but has shorter antennal scapes and entirely different frontal carinae, as shown in Emery's figure (Ann. Mus. civ. stor. nat. Genova, 1887, 25, pl. I, fig. 13).

### 33. *PHEIDOLE MENDANAI*, sp. nov.

*Soldier*. Length 4.5-5 mm.

Head large, longer than broad, with nearly straight sides and deeply excised border; transversely depressed at vertex; frontal sinus profound to a point a little behind the level of eyes where there is a foveolate pit and more feebly impressed anterior to this, extending to a point opposite the anterior border of eyes and terminating in a small pit. Mandibles stout, very bluntly bidentate at tip. Clypeus triangular, the surface depressed and flat, weakly carinate for entire length, anterior border depressed and concave at middle. Frontal area not distinct. Frontal carinae shorter than the scapes, dilated

basally, rather broadly covering the antennal insertions; behind no stronger than the other carinae on front. Antennae short and slender, their scapes extending less than half the distance to occipital corners; club slender, shorter



FIG. 15.—*Pheidole mendanai*  
Mann. Soldier. Front view  
of head.

than remainder of funiculus; joints two to eight distinctly longer than broad. Eyes small (about thirty facets), convex, situated at anterior fourth of sides. Pronotum rounded, sides produced posteriorly into short blunt cones, which have the borders distinctly margined. Promesonotal suture feebly impressed. Mesonotum submargined at sides, flat above; behind descending abruptly to the deeply impressed mesoepinotal suture. Epinotum concave on basal and declivous surfaces, armed with stout, erect spines which are about as long as distant at base. Petiole a little more than twice as long as broad, flattened above, margined at sides; node from above four times as broad as long, submargined behind and somewhat impressed at middle.

Postpetiole twice as long as broad, rounded in front and behind, submargined above; sides produced into coarse blunt spines, each about half as long as the width of petiolar node.

Moderately shining. Mandibles delicately striolate and coarsely, regularly punctate. Clypeus smooth, except for two striae laterally. Front and cheeks longitudinally striate, the striae dense on cheeks and more widely separated on front, with the intervening spaces delicately rugulose. Vertex and occiput reticulately striate and rugulose, the striae strongest on occiput. Thorax and base of epinotum sparsely, delicately, and irregularly striated transversely. Node of petiole and postpetiole rugulose. First gastric segment densely striolate throughout.

Legs shining.

Fine silky erect hairs present on head, body, and appendages, shorter and finer on head.

Ferruginous; gaster lighter. Mandibles and anterior border of head darker, legs pale.

*Worker.* Length 2.25 mm.

Head a little longer than broad, as broad in front as behind, sides slightly convex, posterior border broadly and shallowly concave. Mandibles elongate, with five fine and two larger, triangular teeth. Clypeus flattened anteriorly and carinate at middle of anterior two thirds; anterior border nearly straight. Antennal scapes surpassing occipital corners of head by a little less than a third of their length; funicular joints longer than broad; club slender, shorter than remainder of funiculus. Eyes convex, situated a little in front of middle

of sides of head. Pronotum convex, sides at posterior third produced into short, margined angles. Mesonotum flat, sloping toward mesoepinotal suture. Base of epinotum flat, submargined at sides, concave between the spines, which are stout and as long as their distance apart at base; basal portion concave and feebly margined laterally. Petiole nearly four times as long as broad; node about three times as long as broad, rounded at sides. Postpetiole one and a third times as broad as petiole, rounded above and at sides.

Shining. Mandibles coarsely punctate. Cheeks with regular, coarse, separated striae; front with fine striae; vertex and occiput rugulose punctate and delicately reticulately striate. Thorax, petiole, and postpetiole very finely rugulose. First gastric segment minutely punctate.

Fine erect hairs moderately abundant on head, body, and appendages.

Testaceous to light ferruginous.

*Female.* Length 6 mm.

Head barely broader than long, narrowed anteriorly, concave at occipital border, with a furrow extending to the median ocellus. Mandibles and clypeus similar to those of soldier. Antennal scapes extending to lateral ocelli. Thorax narrower than the head. Epinotal spines strong, slightly shorter than their distance apart at base. Petiole more narrowed above than in the soldier and more distinctly margined and more strongly depressed at middle. Postpetiole similar to that of soldier.

Head striate on front and cheeks similar to soldier, but the striae of vertex and occiput are less reticulate and the spaces between are not as rugose. Mesothorax strongly longitudinally striate. Scutellum at basal half smooth, except for a pair of foveolate punctures; at apical half irregularly striate and rugulose. Petiole, postpetiole, and first gastric segment sculptured as in worker.

Hairs yellowish, long and moderately abundant.

Ferruginous; wings infuscated.

Ysabel: Fulakora.

Described from specimens taken from a colony found beneath a log.  
*Type.*—M. C. Z. 9,161.

The closely related *P. laminata* Emery from New Guinea differs in having the frontal lamellae produced more angularly in front and in its much smaller size. In *mendonai*, as in *laminata* and *cryptocera* Emery the gaster is microscopically scabrose and subopaque.

### 39. PHEIDOLE ISIS, sp. nov.

*Soldier.* 2.75–3 mm.

Head a fourth longer than broad, sides parallel; posterior border deeply concave at middle and vertex very strongly impressed transversely, so that



the posterior corners stand out prominently, somewhat lobiform. Mandibles thick, outer border straight at middle, blades edentate. Clypeus flat, concave at anterior border, strongly carinate. Frontal area deeply impressed. Frontal



FIG. 16.—*Pheidole isis* Mann. Soldier. Lateral view of head, thorax, and petiole.

lamellae flat, dilated; frontal carinae strong, expanded laterally, a little longer than the scapes, and bordering a broad scrobe capable of containing the entire scape (similar to *cryptocera* Emery). Antennae short, their scapes extending less than half the distance to occipital corners; funicular joints two to eight strongly transverse; club moderate, shorter than remainder of funiculus. Eyes small (about fifteen facets) and convex, situated at sides of head well in front of middle. Promesonotum without suture, about as broad as long, sides



FIG. 17.—*Pheidole isis* Mann. Soldier. Front view of head.

strongly produced conically and ending in stout triangular spines; sides of mesothorax obtusely angulate, posterior portion perpendicular to the mesoepinotal impression. Epinotum concave between the spines, which are stout, about as long as their distance apart at base and extending upward and backward and slightly curved inwardly. Petiolar node in profile cuneiform; above deeply emarginate with the sides narrowly margined and obtusely angulate. Postpetiole twice as broad as petiole, produced conically at sides. Gaster short and broad. Legs rather slender.

Opaque. Mandibles punctate, shining. Clypeus shining, finely striate. Front and cheeks subopaque with coarse, very rugose striae and the intermediate spaces rugulose. Scrobes coarsely and granulosely punctate. Vertex rugosely reticulate. Occipital region with rather regular reticulate striae and the enclosed portions smooth and shining. Pronotum coarsely, reticulately striate and rugose. Mesonotum more finely rugose, longitudinally striate at sides. Epinotum with series of fine and short transverse striae. Petiole, postpetiole, first gastric segment, and posterior portions of second and third segments very densely punctate and opaque.

Sparse erect hairs on head, body, and appendages.

Head and mandibles light brownish red; thorax, epinotum, petiole, and postpetiole very dark reddish brown, almost black. First gastric segment brownish yellow, with the posterior border and the remainder of gaster the same color as thorax. Appendages brownish yellow.

*Worker.* Length 1.40 mm.

Head a little longer than broad, sides slightly convex, posterior border feebly concave at middle. Frontal carinae short. Antennal scapes barely surpassing occipital corners; funicular joints two to eight transverse. Promesonotum rather flat. Pronotal spines extending outward and forward, a little less than half as long as their distance apart at base. Epinotum flat basally; spines extending upward and backward and very slightly curved, nearly twice as long as their distance apart at base. Petiole triangular in profile, upper border notched at middle. Postpetiole one and a third times as broad as petiole, evenly rounded at sides, with straight anterior and posterior borders.

Opaque. Head, thorax, and abdomen regularly, densely, and granulosely punctate, the gaster more subtly than the rest; head with sparse striae on front and vertex and indistinct reticulate striae on occiput.

Hairs sparse, semirecumbent, with a few erect on head and thorax.

Head light reddish brown. Thorax, petiole, and postpetiole very dark brown. Gaster and legs brownish yellow.

*Female* (deälated). Length 3 mm.

Head similar to that of soldier, but broader, with less prominent occipital corners and less emarginate behind. Pronotum with bluntly conical spines. Epinotal spines stout, about as long as their distance apart at base. Petiole shorter than in soldier. Postpetiole broadest in front and subconate.

Head with sculpture similar to that of soldier. Mesothorax irregularly striate longitudinally and densely punctate. Scutellum more finely striate and punctate. Petiole, postpetiole, first gastric segment, and posterior portions of remaining segments densely granulosely punctate.

Pilosity as in soldier.

Color brownish red, with the pronotum, scutellum, a large quadrangular blotch on mesonotum, thoracic pleurae, petiole, postpetiole, base and apical border of first gastric segment, and the rest of gaster fuscous. Legs brownish yellow.

Ysabel: Fulakora.



FIG. 18.—*Pheidole isis*  
Mann. Soldier.  
Dorsal view of  
thorax and petiole.

Near *P. tetracantha* Emery but is smaller, the clypeus is carinate at middle, the epinotal spines are shorter and the sculpture and color entirely different.

The carinae on the head are strongly rugose, the frontal carinae especially so, having a distinctly crenulate aspect. The elongate and strongly lobed head and the sculpture are very different from *sexspinosa*, though both species belong to the same group.

39a. *PHEIDOLE ISIS* Mann, var. *TAKI*, var. nov.

*Soldier.* Length 3 mm.

Differing from the preceding form only in color, being uniformly pale ferruginous throughout.

San Cristoval: Wai-ai.

40. *PHEIDOLE NINDI*, sp. nov.

*Soldier.* Length 2.50 mm.

Head a little longer than broad, slightly impressed transversely at vertex, sides feebly convex, occipital border narrowly excised. Mandibles bidentate apically. Clypeus nearly flat, slightly concave at middle of anterior border,



FIG. 19.—*Pheidole nindi*  
Mann. Soldier. Front  
view of head.

Antennal scapes extending a little more than half the distance to occipital corners; funicular joints two to eight broader than long, club elongate, as long as the remainder of funiculus, with the terminal joint longer than the two preceding joints together. Eyes small, moderately convex, situated at anterior third of sides of head. Promesonotum convex in profile, sides at middle produced as blunt cones. Base and declivity of epinotum not separated; sides of base with a fine, irregular margin; spines shorter than their distance apart at base, straight, elongate, triangular. Petiole thick, node in profile triangular, narrowly rounded above, margined at sides, dorsal surface seen from the front very shallowly concave.

Postpetiole transverse, broader than petiole, broadest in front of middle, with nearly straight sides.

Feebly shining. Mandibles with sparse, regular, and coarse punctures. Clypeus with a sharp carina at middle and smaller carinae at sides. Front

and cheeks strongly striate longitudinally. Vertex and occiput coarsely reticulate, with the interspaces densely punctate. A flat region on sides of head, inward and posterior to the eyes, cribrately punctate and with a few fine striae. Promesothorax irregularly reticulate striate and punctate. First gastric segment finely and very densely striate longitudinally.

Pubescence moderately abundant, long and fine on body, shorter on appendages.

Brownish red; first gastric segment and appendages yellow-brown.

*Worker.* Length 1.50 mm.

Head a little longer than broad, as broad in front as behind, sides feebly convex, posterior border shallowly concave at middle. Clypeus with distinct anterior and posterior surfaces which are nearly flat; border straight. Antennal scapes surpassing occipital corners by about twice their width at tip. First funicular joint longer than the following three together; joints two to eight about as long as broad, club slender, as long as remainder of funiculus. Eyes situated at sides of head a little in front of middle. Promesothorax little convex above, gibbous at sides, in profile strongly sloping behind to the mesoepinotal impression. Base of epinotum longer than the declivity, flat above; spines rather slender, a little shorter than their distance apart at base, extending upward, backward, and slightly outward. Petiole similarly shaped, to that of soldier but thicker and broader above. Postpetiole transverse, twice as broad as petiole, broadest in front of middle.

Nearly opaque. Mandibles finely striate and punctate. Clypeus punctate and finely striate. Head, thorax, and epinotum cribrately punctate, head with fine and sparse striolae, longitudinal on front and cheeks, somewhat reticulate on vertex and occiput. Petiole, postpetiole, and first gastric segment shallowly and rather densely punctate.

Pilosity and color as in soldier.

*Female.* Length 4.75 mm.

Head broader than long, somewhat narrowed in front, broadly concave behind.

Head strongly, longitudinally striate, reticulate on occiput, and rather densely punctate. Mesothorax with finer, dense, and twisted striae and punctate. Scutellum shining basally with sparse, coarse punctures, rugulose-striate apically. Epinotum shallowly cribrate-punctate. Petiole cribrately punctate, the node transversely striate. Postpetiole strongly and closely striate longitudinally. First gastric segment very densely striolate longitudinally.



FIG. 20.—*Pheidole nindi* Mann. Soldier. Thorax and petiole from above.

Dark brown to black; front of head and anterior third of first gasteric segment brownish red, tips of femora, tibiae, and tarsi yellowish brown.

San Cristoval: Wai-ai (Type-locality), Pamua, Wainoni Bay. Ugi: Pawa.

An abundant species in the above localities, where it nests beneath stones and logs. *Type*.—M. C. Z. 9,169.

#### 41. PHEIDOLE FUSCULA Emery.

Term. fuzet., 1900, **23**, p. 324, 2 ♀.

Ysabel: Fulakora.

Several colonies were found in rotten logs.

#### 42. PHEIDOLE PHILEMON Forel.

Rev. Suisse zool., 1910, **18**, p. 44, 2 ♀ ♂.

Santa Cruz: Graciosa Bay. Three Sisters: Malapaina. San Cristoval: Wai-ai. Malaita: Auki.

#### 43. PHEIDOLE UMBONATA Mayr.

Verh. K. K. zool.-bot. gesellsch. Wien, 1870, **20**, p. 977, 2.

Ugi: Pawa. San Cristoval: Wai-ai. Malaita: Auki.

#### 44. PHEIDOLE OCEANICA Mayr.

Sitzungsb. Akad. wiss. Wien, 1866, **53**, p. 510, 2 ♀.

Verh. K.K. zool.-bot. gesellsch. Wien, 1870, **20**, p. 979, 2 ♀.

Ugi: Pawa. Three Sisters: Malapaina. San Cristoval: Wai-ai, Pamua, Wainoni Bay. Malaita: Auki. Ysabel: Fulakora.

This species, which occurs continuously in all the islands from the Tonga group to New Guinea, is also abundant in the Solomons. It lives in large colonies beneath stones or logs or in rotten wood. My

specimens agree closely in form and sculpture with a cotype in the U. S. N. M. collection. In the large series before me there is a great deal of variation in color, from dark to light brown.

One soldier from Pamua is interesting in having a large and well-developed median ocellus, situated slightly to the right of the middle of the front.

44a. *PHEIDOLE OCEANICA* Mayr, var. *PATTESONI*, var. nov.

Santa Cruz: Graciosa Bay.

All of the soldiers and workers in the series from the above locality are much more uniform and darker in color (dark brown to black) than specimens from the Solomons and may be considered a geographical variety. *Type*.—M. C. Z. 9,162.

45. *CARDIOCONDYLA NIVALIS*, sp. nov.

*Worker*. Length 1.75 mm.

Head longer than broad, narrowest in front; sides moderately convex; posterior border very shallowly concave. Clypeus flat above and very broadly and feebly concave at anterior border. Mandibles with three small but distinct teeth and a larger subapical tooth. Antennal scapes extending four fifths the distance to occipital corners; first funicular joint as long as the three following joints together; remaining joints, except those forming the club, transverse; first joint of club as long as broad; second longer than broad, terminal as long as the five preceding joints together. Eyes large and convex, located at sides of head in front of middle. Promesothorax flattened above, the suture very feeble. Sides of prothorax strongly convex; anterior border and humeral angles broadly rounded. Mesothorax about as broad as long, with nearly straight sides. Basal portion of epinotum rounded above; in profile straight, and longer than the concave declivity; spines strong, long, and diverging. Petiole strongly pedunculate, with an acute anteroventral tooth; node from above rounded in front and at sides; in profile deeper than long, with declivous anterior surface, nearly flat top and sloping posterior surface. Postpetiole broader than long; broadest in front of middle, with convex sides and straight anterior and posterior borders; in profile longer than high and convex above. Gaster only slightly longer than petiole and postpetiole together.

Gaster smooth and shining; the rest subopaque and very densely punctulate. Mandibles subopaque and more coarsely punctate.

Anterior border of clypeus with fine long hairs; funiculus and ventral surface of gaster with sparse and fine pubescence, the rest without pile or pubescence.

Gaster jet black; the rest snowy white or faintly tinged with yellowish brown.

San Cristoval: Pamua.

A striking though minute species, very different from any of the species known to me. The color of gaster is in strong contrast to the rest of the body and the long epinotal spines are very distinctive.

CREMATOGASTER subgenus RHACHIOCREMA, subgen. nov.

In *Crematogaster paradoxa* Emery from New Guinea and the following new species, the enormous development of the epinotal spines and the elongate pedunculate structure of the petiole and the elongate 12-jointed antennae with the 2-jointed funicular club, are so different from other species in the genus that I separate them from *Crematogaster sens. strict.* as a new subgenus.

The type of the subgenus is: —

46. CREMATOGASTER (RHACHIOCREMA) WHEELERI, sp. nov.

Worker. Length 2.50 mm.

Head with moderately convex sides, broadly rounded occipital corners and nearly straight border. Mandibular blades with three stout triangular teeth on apical half. Clypeus convex; anterior border straight. Antennae slender,



FIG. 21.—*Crematogaster* (*Rhachiocrema*) *wheeleri* Mann. Worker. Lateral view of head, thorax, and petiole.

their scapes surpassing occipital corners; first funicular joint as long as the succeeding two together; joints two to eight distinctly longer than broad; club 2-jointed, slender, terminal joint twice as long as the penultimate. Eyes

convex, situated at sides of head, well behind middle. Promesonotum flattened, without suture; humeral angles narrowly rounded. Epinotum bearing two extraordinarily long and massive spines, which are thickened at middle half, acute apically and divergent, the distance between the tips about equal to the length of one spine. Petiole long and depressed, the node longer than broad, broadest behind, with posterior corners elevated and obtusely angulate. Postpetiole broader than long, subangulate at sides.

Shining. Mandibles striate. Clypeus with five or six longitudinal costae. Remaining parts of head and body finely punctate. Pilosity very long and sparse; finer, shorter, and semirecumbent on antennae and legs.

Color black, except mandibles, funiculus, and tarsi which are yellow. The basal half of funiculus is somewhat fuscous and terminal half clear yellow.

Malaita: near Fourafi in the interior.

The few workers on which the description is based were taken running about on stones at the edge of a stream where we stopped for lunch on our walk across the island. *Type*.—M. C. Z. 9,163.

This species is distinct from *paradoxa* Emery in the shape of the spines, which are more thickened, straighter, and less divergent.

#### 47. CREMATOGASTER ELYSII, sp. nov.

*Worker*. Length 2 mm.

Head subquadrate, about as long as broad; sides convex, occipital angles broadly rounded, posterior border nearly straight. Mandibles short, 4-dentate. Clypeus convex, feebly concave at middle of anterior border. Antennae



FIG. 22.—*Crematogaster elysii* Mann. Worker. Lateral view of thorax and petiole.

11-jointed, scapes not attaining occipital border; funicular joints two to seven moderately transverse, joint eight slightly longer than broad, terminal joint stout, as long as the three preceding joints together. Pronotum bluntly margined at sides; humeri angulate. Mesonotum rather flatter than pronotum and in a different plane, but not separated by impression. Basal portion of epinotum broad and shallowly concave, not distinctly separated from declivity. Epinotal spines half as long as the distance between them



at base, stout and acuminate, curving upward and backward with the tips inward. Petiolar node a little longer than broad; broadest in front, margined at sides and in front; anterior corners rounded; posterior corners angulate. Postpetiole about as broad as petiole; transverse, longitudinally impressed above. Gaster short. Legs rather stout.

Smooth and shining throughout. Mandibles punctate; cheeks finely striolate. Erect hairs absent, except two to three short and stiff hairs on petiolar node. Head and gaster with very sparse, short, recumbent pubescence. Funiculus and tarsi pubescent.

Color brownish red; gaster jet black.

Three Sisters: Malapaina.

Described from a few workers taken on recently felled trees. *Type*.—M. C. Z. 9,164.

#### 48. CREMATOGASTER ABRUPTA, sp. nov.

*Worker*. Length 2.50–2.75 mm.

Head slightly longer than broad, as broad in front as behind, with convex sides, broadly round occipital corners; occipital border very feebly concave at middle. Mandibles 4-dentate. Clypeus convex; anterior border very shallowly concave at middle. Antennal scapes not attaining occipital corners; funicular joints two to seven broader than long, joint eight longer than broad; terminal joint as long as the three preceding joints together. Eyes large, little convex, located at sides of head slightly behind middle. Pronotum flattened medially; sides submargined, humeri rounded. Promesonotal impression discernible but very feeble. Mesonotum flat basally, then abruptly declivous, in profile angulate; margined at sides. Epinotum, except for a narrow flat surface at base, concave, without distinct basal and declivous portions; spines half as long as their distance apart at base, strong, acuminate, divergent, curved downward. Petiolar node flat above, longer than broad; anterior corners rounded, posterior obtusely angulate. Postpetiole transverse, longitudinally impressed at middle.

Shining. Mandibles subtly striolate. Head, pronotal disc, concave portion of epinotum, and gaster finely and sparsely punctate; front of pronotum and epinotum, all of mesonotum, petiole, postpetiole, and apical segment of gaster microscopically rugulose.

Without erect hairs above; with rather sparse and fine recumbent pubescence on head and gaster; semierect pubescence on scapes and funiculus.

Color uniformly brownish yellow.

Three Sisters: Malapaina.

This form was much more abundant than the preceding and was found in the same locality. I failed to locate the nests of either. *Type*.—M. C. Z. 9,165.

49. *CREMATOGASTER FOXI*, sp. nov.

*Worker*. Length 2.50–2.75 mm.

Head with strongly convex sides, rounded occipital corners and concave border. Mandibles 4-dentate. Anterior border of clypeus straight. Antennal scapes extending four fifths the distance to occipital corners; first funicular joint as long as the three succeeding joints; joints two to eight almost as long as broad; terminal joint shorter than the three preceding joints. Eyes large and moderately convex, situated at sides of head posterior to middle. Thorax slender. Pronotum margined at sides, humeri rounded, disc slightly convex.



FIG. 23.—*Crematogaster foxi* Mann. Worker. Lateral view of thorax and petiole.

Mesonotum at sides with a narrow elevated margin, the surface shallow, concave, and, posterior to middle, sloping to the deep mesoepinotal impression. Epinotum shallowly concave; spines subtriangular, acute, half as long as their distance apart at base and almost straight. Petiolar node slightly longer than broad, narrowed in front, with rounded anterior and angulate posterior corners. Postpetiole a little broader than long, longitudinally impressed above. Gaster elongate.

Shining. Mandibles and cheeks striate. Clypeus with one strong and several very feeble costae at sides. Pronotum with longitudinal costae, two of which extend as borders to the mesothorax. Epinotum with indistinct costae. Petiolar node and base of postpetiole microscopically rugulose, the rest smooth.

Scattered, very long, and erect yellow pile present everywhere, except on legs and antennae where it is fine and semirecumbent.

Color yellow.

*Female*. Length 6.50 mm.

The striation of the mandibles is much coarser than in the worker. The head and body are smooth and shining, not costate. The wings are hyaline,

with fuscous veins and stigma. The color is ferruginous with a spot on vertex and the posterior portions of gastric segments fuscous.

San Cristoval: Pamua, Wainoni Bay.

This species is dedicated to Rev. C. R. Fox, missionary to and student of the natives on San Cristoval. *Type*.—M. C. Z. 9,166.

50. CREMATOGASTER NESIOTIS, sp. nov.

*Worker*. Length 2.50 mm.

Head with convex sides and shallowly concave occipital border; in the larger workers broader than long. Mandibles 4-dentate. Clypeus convex, very shallowly concave at middle of anterior border. Antennae 11-jointed; scapes not attaining occipital border; funicular joints all longer than broad;



FIG. 24.—*Crematogaster nesiotis* Mann. *Worker*. Lateral view of thorax and petiole.

club distinctly 3-jointed, terminal joint about as long as the two preceding joints together. Thorax robust; promesonotal suture more fully impressed; pronotum very indefinitely margined at sides, humeri rounded. Mesonotum in profile convex; submargined at sides. Flat basal portion of epinotum rather long, only twice as broad as long; the rest shallowly concave; spines stout and acuminate, little divergent, curved backward and slightly downward. Petiolar node as broad or slightly broader than long, concave above, broadest and narrowly rounded in front of middle. Postpetiole a little broader than long, the medial furrow narrow.

Shining. Mandibles coarsely striate.

Head and gaster with very sparse recumbent pubescence. Pilosity scattered on head and body, erect and moderately abundant; shorter and semierect on legs and antennae.

Color brownish yellow.

Russell: West Bay.

Described from several workers found on tree-trunks. *Type*.—M. C. Z. 9,167.

## 51. CREMATOGASTER OBNIGRA, sp. nov.

*Worker.* Length 2.25-3 mm.

Head subquadrate, longer than broad, shallowly convex behind, with rounded occipital corners. Mandibles 4-dentate. Anterior border of clypeus concave. Antennal scapes extending to half the distance between posterior border of eyes and occipital corners; funicular joints two to seven about as broad as long; club slender, terminal joint longer than the two preceding joints. Eyes little convex, situated at sides of head slightly posterior to middle. Thorax robust. Pronotum with rounded sides and humeri. Promesonotal impression indistinct. Mesonotum in profile evenly and rather feebly convex; sides rounded. Base of epinotum massive, convex, distinct from declivity, which is one and one half times as long as base and almost flat; spines stout, triangular, broader at base than long. Petiolar node slightly longer than broad, broadest in front of middle, with narrowly rounded and elevated sides. Postpetiole broader than long, broadly impressed at middle.

Shining. Mandibles coarsely striate. Checks, anterior half of pronotum, sides of mesonotum, base of epinotum and meso- and metapleurae striolate. Petiole and postpetiole punctate, the former densely so.

Pilosity moderately abundant, and suberect on head, thorax, abdomen, legs, and antennae.

Color dark brown to black; mandibles and tarsi fuscous.

Russell: West Bay.

*Type.*— M. C. Z. 9,168.

### Key.

- Epinotal spines very short; thorax rounded at sides, not margined; base of epinotum separated from declivity by broadly rounded margin; color black.....*obnigra* Mann.
- Epinotal spines at least half as long as the distance between their bases; thorax, at least in part, margined or submargined; base and declivity of epinotum, not separated.....1.
1. Smaller species (length 2 mm.); humeri angulate; without pilosity; bicolored, gaster jet black, the rest brownish red.....*elysi* Mann.  
Length 2.25-3 mm. humeri rounded, not bicolored.....2.
  2. Petiolar node broadest behind; clypeus bicostate; pronotum and mesonotum sharply costate; gaster unusually long and slender. *foxi* Mann.  
Petiolar node broadest in front; thorax not costate; gaster of ordinary form.....3.

3. Mesothorax with sides margined, in profile angulate behind middle, the posterior face almost perpendicular to the mesoepinotal impression; body without erect hairs above.....*abrupta* Mann.  
Mesonotum not margined, evenly convex in profile; body pilose above.  
*nesiotis* Mann.

#### 52. VOLLENHOVIA PEDESTRIS (F. Smith).

*Myrmica pedestris* F. Smith, Journ. proc. Linn. soc. London. Zool., 1862, 6, p. 46, ♀.

Santa Cruz: Graciosa Bay. Santa Anna. San Cristoval: Wai-ai Pamua, Wainoni Bay. Ugi: Pawa. Malaita: Auki. Ysabel: Fulakora.

This is the most widely distributed species of *Vollenhovia* and one of the commonest ants in the Solomons. The colonies are found beneath bark and in rotten wood where some humidity is present. They make well-defined runways beneath the bark and move along these, more or less in file. One colony, seen at Ugi, was composed of many thousands of individuals and occupied the entire interior of a hollowed log lying on the ground. In collecting from this nest I was stung repeatedly, but the sting was not severe.

#### 53. VOLLENHOVIA SUBTILIS Emery.

Ann. Mus. civ. stor. nat. Genova, 1887, 25, p. 454, ♀ ♀.

San Cristoval: Pamua, Wai-ai, Wainoni Bay. Malaita: Auki.

Found nesting beneath bark. My specimens agree with Emery's description of workers of the typical form from Key Island which have the epinotum smooth and shining at middle.

The variety *affinis* Emery described from New Guinea is not represented among my material.

#### 54. VOLLENHOVIA LOBOII, sp. nov.

*Worker.* Length 1.50 mm.

Head much longer than broad, with subparallel sides and rather narrowly concave occipital border. Mandibles 5-dentate. Antennae short, their

scapes extending about two thirds the distance to occipital corners; first funicular joint as long as the three succeeding joints together; joints two to seven strongly transverse; club large, longer than the rest of funiculus. Eyes little convex, situated at sides of head well in front of middle. Promesonotum flattened; humeri bluntly angulate. Mesoepinotal suture moderately impressed. Basal portion of epinotum flat, longer than the declivity; declivity flat, with blunt, elevated margins laterally. Petiolar node a little longer than broad; in profile slightly longer than high, with sloping anterior and rounded posterior surfaces. Postpetiole subglobose, a little broader than petiole.

Feebly shining throughout. Mandibles sparsely punctate. Head reticulately striate and punctate; clypeus smooth. Promesonotum and epinotum striolate and punctate, more finely and shallowly than the head, with the base of epinotum as strongly so as the rest; thoracic pleurae cribrately punctate; petiole and postpetiole densely but more shallowly punctate. Gaster with fine piligerous punctures.

Fine, long, erect yellowish hairs moderately abundant on head and body; shorter and semirecumbent on appendages.

Dark brown to black; antennae and legs yellowish brown; femora infuscated at basal two thirds.

Malaita: Auki.

Near *brevicornis* Emery but with the scapes a little longer and the sculpture entirely different. The small size, more elongate head and the sculpture of the basal portion of the epinotum distinguish it from *subtilis* Emery and its varieties.

55. *VOLLENHOVIA DENTATA*, sp. nov.

*Worker.* Length 1.75–2 mm.

Head about a fourth longer than broad, sides subparallel, occipital corners broadly rounded, border shallowly concave at middle. Mandibles 5-dentate. Clypeus convex, rounded above and at anterior border. Antennal scapes extending three fourths the distance to occipital corners; first funicular joint as long as the three following joints together; joints two to seven moderately transverse; club large. Eyes slightly convex, situated at sides of head a little in front of middle. Promesonotum flattened; humeri obtusely angulate. Mesoepinotal suture moderately impressed. Basal and declivous surface of epinotum rounding into each other; sides of declivity with margin that is elevated at middle into a small, stout, triangular tooth. Petiolar node a little longer than broad; in profile about as high as long, anterior face declivous, dorsal and posterior surfaces moderately rounded; anteroventral tooth broad

and thin, rounded at tip. Postpetiole one and a third times as broad as petiole and a little broader than long; in profile, as long as high, rounded above. Legs less swollen than in the related species.

Feebly shining. Mandibles with sparse, fine punctures. Head, thorax, and base of epinotum rugosely punctate and reticulately striate. Petiole, postpetiole, and first gastric segment with foveolate punctures which are more regular and shallower on the gaster.

Fine, erect, yellowish hairs moderately abundant on head and body, and shorter, stiffer, semierect ones on appendages.

Dark, reddish brown, gaster black; mandibles and appendages yellowish brown.

*Male.* Length 2.25 mm.

Head, excluding eyes a little longer than broad, corners broadly rounded, occipital border nearly straight. Mandibles elongate, flat and broadly rounded at tips. Clypeus strongly convex, narrowly rounded in front. Eyes large and convex, more than half as long as head; situated at a distance equal to one fifth their length from the anterior borders of head. Ocelli large. Antennae slender, 13-jointed, their scapes two thirds as long as the eyes; first funicular joint scarcely longer than the second; all joints longer than broad, increasing in length toward apex; apical joint slender, about as long as the two preceding joints together. Thorax robust. Mesothorax flat. Mayrian furrows not present; parapsidal furrows short and broad. Scutellum transverse, flattened. Epinotum with a rounded angle between base and declivity. Petiole in profile longer than high, broadly rounded above; beneath with a minute sharp tooth in front of middle; from above, longer than broad, with moderately rounded sides. Postpetiole subglobose, a little broader than petiole. Gaster narrow. Genitalia prominent, legs long and very slender.

Feebly shining. Head subopaque, densely punctate. Thorax, petiole, postpetiole, and first gastric segment finely, shallowly, and rather densely punctate, the gaster less densely than the rest.

Short, silky hairs abundant on head, body, and appendages.

Color dark brown to black; legs brown, antennae yellowish brown. Wings evenly infuscated.

Ugi: Pawa.

This species differs from the other Papuan forms in the denticulate margins of the epinotal declivity, in the coarse punctuation of the first gastric segment, and the generally coarser sculpture of head and thorax. It was fairly common on Ugi, nesting beneath bark like the other species. I did not find it on other islands, but took the following subspecies on Malaita. *Type*.—M. C. Z. 9,170.

55a. *VOLLENHOVIA DENTATA* Mann, subsp. *MARGINATA*, subsp. nov.

*Worker.* Length 2 mm.

Differing from *dentata* in having the teeth at margins of epinotal declivity longer and narrower. The anterior upper border of the petiolar node is distinctly margined. The sculpture of the promesothorax is feebler, especially in the middle where it is reduced to delicate striation. The petiole and postpetiole are irregularly and finely striolate and the gaster is not punctate.

The whole body is more shining. The color is light brownish red with the appendages honey-yellow.

Malaita: Interior.

Described from a single worker taken at our camp at 2,300 feet elevation on the trail between Atta and Fourafi.

56. *VOLLENHOVIA ELYSII*, sp. nov.

*Worker.* Length 1.6 mm.

Near *brevicornis* Emery. Head about one and a fourth times as long as broad, slightly convex at sides and concave at posterior border. Mandibles 5-dentate. Antennae short, their scapes extending a little less than two thirds the distance to occipital corners. Promesothorax slender and flattened; humeri very obtusely angulate. Mesoepinotal suture but feebly impressed. Epinotal declivity at sides with a coarse margin that is elevated at middle into a broad, low triangle. Petiolar node a little longer than broad; in profile straight in front, rounded above anteriorly and sloping behind; ventral tooth twice as broad as long and only slightly rounded at tip. Postpetiole subglobose, a little broader than petiole.

Moderately shining. Mandibles sparsely punctate. Clypeus with delicate, interrupted striae. Head, thorax, and base of epinotum irregularly striolate and punctate. Petiole indistinctly striate transversely. Postpetiole finely and shallowly punctate. Gaster with sparse piligerous punctures.

Hairs on head and body abundant, long, and fine; on appendages shorter and semirecumbent.

Color reddish brown; dark on head and light on gaster.

Three Sisters: Malapaina.

In its short antennal scapes *elysii* resembles *brevicornis* Emery, but differs in the much smaller size, in having the sculpture of the thorax uniform, and in the elevated angular margins to epinotal declivity.



The sculpture is more delicate than in the other species I have seen. The difference in sculpture among the species of *Vollenhovia* is easy to see but difficult to describe.

57. *VOLLENHOVIA FOVEACEPS*, sp. nov.

*Worker.* Length 1.50 mm.

Head longer than broad, slightly narrowed in front, with feebly convex sides and rather strongly concave posterior border. Mandibles 5-dentate. Clypeus nearly twice as long as broad, with flattened surface. Antennal scapes thickened distally, extending about three fourths the distance to occipital corners; funicular joints, except the first and those forming the club, strongly transverse. Eyes convex, situated well in front of middle of sides of head. Thorax flattened, with prominently angulate humeri. Mesoepinotal suture feebly discernible from above. Basal and declivous portions of epinotum rounding into each other, the surface of the latter flat. Petiolar node from above a little longer than broad, with straight sides; in profile, thick, about as high as long, highest at anterior margin, broadly rounded above and behind and declivous in front, anteroventrally with a stout tooth which is broad and rounded apically. Postpetiole nearly twice as broad as petiole, a little broader than long and evenly rounded at sides; in profile as high as long and rounded above.

Gaster elongate oval. Legs long, femora and tibiae thick.

Shining throughout. Mandibles impunctate. Head with foveolate punctures which are sparse on occiput and vertex and more abundant in front; front and sides delicately, reticulately striolate, except for a narrow median smooth space extending down front and vertex. Pronotum, mesonotum, sides of epinotum, petiole, and postpetiole with very sparse but strong foveae. The rest smooth, though under a strong lens a subtle reticulation is discernible.

Scattered, sparse, very long, fine, and erect hairs present on head, body, and antennae, and shorter semirecumbent hairs on legs.

Head light brown with a darker blotch on vertex; legs and antennae yellowish, the rest dark brownish red. Pilosity yellowish.

*Female* (deälated). Length 1.8 mm.

Very similar to the worker, with the usual sexual modifications. The ocelli as large as the cephalic foveae. Pronotum with angulate humeri. Mesonotum flat, transversely oval.

Thorax, epinotum, petiole, and postpetiole with scattered foveolate punctures as in worker, mesonotum with more abundant punctures.

Pilosity more abundant than in worker. Color darker.

Ysabel: Fulakora.

Described from females and workers from two small colonies that contained less than a dozen workers each.

In the very feebly impressed mesoepinotal suture, the sharply angulate pronotal humeri and in sculpture, *foveiceps* and the closely related *punctata* Vieh. from New Guinea differ markedly from the other Papuan species. *V. punctata* is larger than *foveiceps* and differently colored and has the petiole and postpetiole similar to *subtilis* Emery subsp. *magna* Viehmeyer. In that form, according to Viehmeyer's description, the postpetiole is somewhat broader than the petiole and has strongly convex sides. In *foveiceps* it is twice as broad as the petiole and the sides are nearly straight.

#### 58. *MONOMORIUM TALPA* Emery.

Lorentz's Nova Guinea, 1911, 9, p. 252, ♀.

*Female.* Length 3 mm.

Head rugulose striate and punctate. Thorax and node coarsely punctate. Epinotum in profile angulate similarly to worker. Petiole and postpetiole thicker than in worker.

Color dark reddish brown; mandibles, antennae, and legs brownish yellow.

San Cristoval: Star Harbor, Wainoni Bay. Ugi: Pawa.

Occurs beneath stones and in rotten logs.

#### 59. *MONOMORIUM PHARAONIS* (Linné).

*Formica pharaonis* Linné, Syst. nat., ed. 10, 1758, 1, p. 580.

Malaita: Auki. Ugi: Pawa.

#### 60. *SOLENOPSIS PAWAËNSIS*, sp. nov.

*Worker.* Length 1 mm.

Head a little longer than broad, broadest behind, with moderately convex sides and concave occipital border. Clypeus bicarinate and bidentate, the teeth broad and triangular. Mandibles with four large teeth. Antennal scapes extending three fourths the distance to occipital corners; funicular

joints two to six moderately transverse; club slender, as long as the rest of funiculus, terminal joint nearly four times as long as the penultimate. Eyes minute, composed of only one facet. Promesonotum a little longer than broad, rounded above and at sides. Mesoepinotal impression profound. Epinotum with equal base and declivity, the former flattened, the latter slightly concave and margined laterally. Petiolar node in profile subtriangular, rounded above; about as long as the pedicel; from above broader than long. Postpetiole slightly broader than petiole, and one and one third times as broad as long.

Shining throughout. Epinotum and pedicel of petiole coarsely and densely, though shallowly, punctate and less shining than the other parts.

Front and clypeus with a few long and coarse hairs. Head and gaster sparsely and microscopically pubescent.

Color yellow to yellow-brown.

Ugi: Pawa (Type-locality). Ysabel: Fulakora.

The Pawa specimens are darker than those from Fulakora but otherwise identical.

*Solenopsis pawaensis* resembles *papuana* Emery, but differs in its minute eyes, the narrower petiole and in the coarse punctuation of the epinotum and pedicel.

#### 61. SOLENOPSIS CLEPTIS, sp. nov.

*Worker.* Length 1 mm.

Head quadrangular, longer than broad, as broad in front as behind, with nearly straight sides, broadly rounded occipital corners and straight border. Mandibles stout, 3-dentate. Clypeus bicarinate, the carinae little divergent, terminating in acuminate teeth. Antennae short, scapes extending less than two thirds the distance to occipital corners; funicular joints two to six twice as broad as long; terminal joint slender, as long as the rest of funiculus. Eyes situated at front fourth of head, as long as the diameter of scape at base. Promesothorax one and a half times as long as broad; pronotum with rounded sides. Basal portion of epinotum convex and rounding into the declivity which is convex and three times as long as the base. Petiolar node in profile with nearly straight anterior surface; the top and posterior surface round into each other; ventral surface strongly bisinuate; peduncle much shorter than the node; node from above subglobose, as broad as long. Postpetiole a little broader than the node and a little broader than long.

Shining, with sparse, shallow punctures, each with a long, erect hair. Legs and antennae with shorter, suberect hairs. Mandibles sparsely punctate.

Color brownish red; appendages lighter and gaster somewhat darker.

San Cristoval: Wai-ai.

*Solenopsis dahl* Forel and *maxillosa* Emery are similar to *cleptis*, but the latter is distinct in having the antennal scapes much shorter and in the bisinuate ventral surface of the petiole.

## 62. OLIGOMYRMEX ATOMUS Emery.

Term. fuzet., 1900, 23, p. 328, pl. 7, fig. 30, 21.

*Female* (deālated). Length 2.75 mm.

Form long and slender. Head about a fourth longer than broad, occipital border less concave than in worker and unarmed. Ocelli large. Eyes large and but little convex, situated at sides of head at a distance of less than half their length from anterior margins. Thorax flat above, slender. Epinotum without distinct base and declivity, flattened, unarmed. Petiole and postpetiole as in soldier. Gaster subcylindrical, three times as long as broad.

Sculpture of head as in worker. Thorax and epinotum shining, sparsely though rather coarsely punctate. Petiole and postpetiole rather densely punctate. Gaster finely and regularly punctate.

Color reddish brown; appendages lighter.

Ysabel: Fulakora.

Several colonies of this minute species were found in rotten wood. The soldiers agree closely with Emery's description but the occipital border is rather more deeply concave and the mandibular teeth larger and more regular than shown in Emery's figure. The color is darker and comparison with specimens from New Guinea may show the Solomon Island specimens to be different.

## 63. OLIGOMYRMEX VIEHMEYERI, sp. nov.

*Soldier*. Length, 2.50 mm.

Head about a third longer than broad, with subparallel sides and broadly rounded occipital corners; occipital border strongly concave at middle, upper borders of concavity armed with short denticulate processes. Mandibles with four stout teeth and two smaller ones. Basal portion of clypeus flat and separated by an angle from the anterior part which is slightly concave, anterior border broadly rounded. Frontal area large, triangular. Antennal scapes flattened basally, extending less than half the distance to occipital corners; funicular joints three to seven a little broader than long, joints eight and nine about as long as broad; club a little shorter than remainder of funiculus, termi-

nal joint nearly three times as long as penultimate. Eyes oval, twice as long as broad, very flat, situated at anterior third of sides of head. Pronotum elevated, strongly convex above and at sides. Promesonotal suture feebly impressed. Mesonotum slightly convex. Mesoepinotal suture profoundly impressed. Epinotum concave between the spines, which are triangular and acute apically, about twice as long as their width at base and extending upward and slightly forward. Petiolar node squamiform, emarginate at middle of upper border; from above three times as broad as long. Postpetiole a little broader than petiole, broadest in front and narrowly rounded at sides, gaster elongate oval.

Shining. Mandibles sparsely punctate. Middle of clypeus and frontal area smooth. Sides of clypeus, cheeks, and front longitudinally striate and finely rugulose between the striae; vertex and occiput rugulose, with indistinct striae. Promesonotum rugulose, pleurae, epinotum, and peduncle of petiole cribrately punctate. Petiolar node finely punctate. Postpetiole and base of first gastric segment rugosely punctate, remainder of first gastric segment with regular punctures.

Recumbent silky pubescence moderately abundant on head and body and sparse, coarser, erect pile on front of head, petiole, postpetiole, and apical portion of gaster.

Fuscoferruginous; mandibles and appendages lighter.

*Worker.* Length .75-1 mm.

Head a little longer than broad, with convex sides and nearly straight occipital border. Mandibles with five rather large triangular teeth. Antennal scapes extending three fourths the distance to occipital corners; middle funicular joints transverse; club as long as remainder of funiculus, terminal joint three times as long as penultimate. Eyes small, situated at sides of head well in front of middle. Promesonotum subglobose, as long as broad. Epinotum flattened at base, the spines slender, acute, a little less than half as long as their distance apart at base. Petiolar node higher than long, twice as broad as long and rounded above. Postpetiole as broad as petiole, transversely oval. Gaster short and broad. Legs long.

Shining. Cheeks striate. Epinotum cribrately punctate, the rest very finely punctate.

Fine short, recumbent pilosity sparsely distributed on head, body, and appendages.

Color light ferruginous; appendages yellowish.

*Female.* Length 2.80 mm.



FIG. 25.—*Oligomyrmex viehmeyeri* Mann. Soldier. Front view of head.

Form slender. Head much longer than broad, sides subparallel, posterior border feebly emarginate. Ocelli prominent. Eyes large and rather flat. Thorax two and a half times as long as broad, broadest at wing insertions, flattened above. Petiolar node shorter and thicker than in soldier and not emarginate above. Postpetiole slightly broader than petiole, transversely oval. Gaster three times as long as broad.

Shining. Head punctate similarly to that of soldier. Epinotum rugulose. Petiolar node densely and shallowly punctate, the remainder with sparse, fine punctation.

Pilosity of head as in soldier, of thorax and abdomen more abundant, erect on thorax and suberect on abdomen.

Color fuscoferruginous; appendages lighter. Wings hyaline, veins brown.

*Male.* Length 2.5 mm.

Head, excluding eyes, much longer than broad, concave at occipital border. Mandibles well developed, 5-dentate. Clypeus flattened at middle. Antennae (broken in specimens before me) with scape twice as long as first funicular joint, joints three to ten cylindrical, each as long as the eye. Eyes very large and convex. Ocelli large. Thorax twice as long as its width at wing insertions. Scutellum slightly convex. Petiole about twice as long as broad, node low and rounded. Postpetiole barely broader than petiole and as broad as long, narrowed in front. Genitalia prominent.

Shining. Head very finely rugosely striolate, thorax and abdomen very minutely punctate; postpetiole rather densely so. Hairs on head and thorax short, stiff, and erect; on gaster silky and recumbent. Funicular joints with a dense covering of short, white hairs.

Ferruginous; head epinotum, petiole, postpetiole, and first gastric segment fuscous.

Wings hyaline, with dense fuscous hairs, veins brown.

San Cristoval: Wai-ai.

Described from a series taken from several colonies in rotten wood. The worker resembles that of *O. subreptor* Emery of New Guinea which is known only from that phase, but has very pronounced epinotal spines, while in *subreptor* the sides are merely obtusely angulate. *Type*.—M. C. Z. 9,171.

64a. *PODOMYRMA BASALIS* Smith, subsp. *SALOMO*, subsp. nov.

*Worker.* Length 5.5–6.5 mm.

In general appearance very similar to the typical Australian form, but differing in the following characters:—

The striae of the head, instead of being strong and uniform, are very delicate,

and, on the vertex, almost obsolete, and interspersed with coarse, shallow punctures.

The occipital region is strongly infuscated and the femora are bright ferruginous, except at the apical third, where they are black. The apical band on the first gastric segment is narrow, though with a tendency to extend forward as an obscure median line.

Florida: Tulagi. Malaita: Auki.

64b. *PODOMYRMA BASALIS* Smith, subsp. *WOODFORDI*, subsp. nov.

*Worker.* Length 3.50–4.75 mm.

Head quadrate, a little longer than broad, as broad in front as behind, sides nearly straight, occipital border broadly and shallowly concave. Mandibles with five stout teeth. Clypeus rather flat, anterior border nearly straight. Frontal carinae very feeble posteriorly, little divergent, extending nearly to occipital border. Antennal scapes stout, extending a little more than two thirds the distance to occipital corners; funicular joints two to eight slightly longer than broad; club shorter than remainder of funiculus, with the terminal joint as long as the two preceding joints together. Eyes large, little convex,



FIG. 26.—*Podomyrma basalis woodfordi* Mann. Worker.

situated at sides of head posterior to middle. Pronotum depressed in front, humeral angles broader at base than long, triangular, not very acute at tips. Mesonotal region sloping. Basal portion of epinotum slightly convex, broadly rounding into the declivity. Petiole from above about three times as long as broad, subquadrate; in profile convex at middle, armed dorsoanteriorly with a thick conical spine and anteroventrally with a broader, flat spine, rounded at tip. Femora strongly incrassate, tibiae moderately so.

Moderately shining. Mandibles coarsely striate. Clypeus with three distinct and entire striae on either side and much feebler and shorter striae on middle portion. Striae of head fine, entire, and longitudinal. Pronotum with a series of nine longitudinal, and slightly sinuous costae, six of which extend on to the mesonotum. Epinotum with a low, rounded ridge on either side. Petiole with acute lateral carinae. Basal gastric segment with short striae at middle of base.

Hairs on head, and body and appendages stiff, erect, and sparse, on scapes with very sparse short and fine recumbent hairs.

Color yellow to yellow-brown; the head and thorax darker and the geniculae strongly infuscated.

*Female.* Length 11 mm.

Head similar to that of worker. Ocelli small. Mesothorax nearly twice as long as broad, truncate behind and narrowly rounded in front; in profile convex at anterior half, flat posteriorly. Scutellum transverse, the surface flattened. Base of epinotum strongly convex; declivity flat. Petiole lacking the anterodorsal projection; in profile two and a half times as long as broad, highest a little in front of middle, with the anterior surface broadly rounding into the dorsum. Postpetiole differing from that of the worker in being broadly instead of narrowly rounded above in profile, with the anterior and posterior surfaces less flat, and in lacking the median impression on the posterior surface. Gaster elongate.

Very shining. Head and mandibles sculptured similar to but more coarsely than that of worker. Prothorax superficially and longitudinally costate. Mesothorax smooth, except apically, where there are a few shallow striae in the middle. Epinotal base costate at sides, declivity smooth. Sides of petiole and posterior portion of postpetiole feebly costate, the rest smooth. Gaster and legs as in worker.

Head with fuscous blotches at ocelli. The fuscous marking of the first gastric segment extends at middle for half the length of the segment. Color otherwise as in worker.

Wings (length 8 mm.) almost clear; veins and stigma pale brown.

Three Sisters: Malapaina.

Described from many workers and two females. *Type*.—M. C. Z. 9,172.

This form is distinct from *basalis* in size, sculpture, and color, it was very abundant on Malapaina, and probably occurs elsewhere in the group, but was found only in the tops of recently felled trees.

The colonies live in twigs about an inch in diameter, in chambers evidently made by wood-boring beetles and the same colony may occupy more than one of these chambers, which have no passages between.

#### 65. MYRMECINA MODESTA, sp. nov.

*Worker.* Length 2.50–2.75 mm.

Head a little longer than broad, with slightly convex sides and shallowly concave occipital border. Clypeus broadly and transversely carinate at



middle; bidentate at anterior border. Mandibles stout, their blades armed with six or seven small teeth and a large subapical tooth about as long as the terminal one. Antennal scapes extending to the occipital corners; first joint of funiculus three times as long as the very short second joint; joints three to eight transverse, but not strongly so; club as long as the rest of the funiculus, the terminal joint longer than the two others together. Prothorax three times as broad as epinotum; humeral and inferior corners angulate. Epinotal base sloping and separated from declivity by a transverse border; declivity convex; spines stout at base and acuminate at apex, as long as the declivity. Node, from above, quadrangular, anterior corners angulate; in profile longer than high, with a sloping anterior face equal in length to the straight dorsal surface. Postpetiole broader than long and quadrangular.

Somewhat shining. Head with coarse striae, which are straight and parallel in front and somewhat irregular and oblique at sides. Clypeus and mandibles finely punctate and shining. Striae of thorax strong, longitudinal, and extending to epinotum where they become more feeble apically. Epinotal declivity smooth and shining. Petiole and postpetiole with widely separated costae, the spaces between smooth and shining. Legs sparsely punctate and shining. Gaster finely punctate and more shining than the other parts.

Head, body, mandibles, and legs with very abundantly and finely pilose.

Black. Mandibles, antennae, and legs brownish red, in some specimens the lower part of femora darker than the rest. Pilosity gray.

*Male.* Length 2.75 mm.

Head, excluding eyes, as broad as long, and broadly rounded behind. Cheeks very short. Clypeus transverse, with truncate anterior border. Antennal scape as long as the first two funicular joints together; first funicular joint a little more than half as long as second; second joint twice as long as broad and a little longer than the third; joints three to eleven subequal, each a little less than twice as long as broad; terminal joint longer than the two preceding joints together. Prothorax convex in front, flattened behind, with strong Mayrian furrows. Scutellum transverse and moderately convex. Epinotum with equal base and declivity, which are separated by an acute margin; spines stout and triangular. Petiole longer than in the worker, and the anterior surface proportionally shorter.

Shining. Head smooth except for a few fine striae inward from the eyes and between the ocelli, and minute punctures. Pro- and mesothorax very finely punctate and with sparse and coarse punctures apically. Scutellum almost smooth on disc, rugose laterally. Base of epinotum with six or seven strong longitudinal striae. Petiole and postpetiole sculptured as in worker. Gaster very shining.

Head, body, and appendages with abundant, long, fuscous pile.

Black; mandibles, antennae, and legs rufous, femora darker; genitalia white. Wings pilose, slightly infuscated, with brown veins and stigma.

Santa Cruz: Graciosa Bay (Type-locality). Three Sisters: Malapaina. Ugi: Pawa. San Cristoval: Wainoni Bay, Wai-ai. Ysabel: Fulakora.

Occurs in small colonies beneath stones. *M. mandibularis* Viehmeyer from New Guinea is very close to *modesta*, but has on the inner edge of the mandibles a broad widening, which Viehmeyer compares with that of *Acropyga butelli* Forel. In *modesta* the posterior corners of the blades are produced and rounded continuously with the inner border, resembling the structure of the mandible of *Acropyga termittobia*, rather than of *butelli*, as figured by Forel. Type.—M. C. Z. 9,186.

65a. MYRMECINA MODESTA Mann, subsp. SUBARMATA, subsp. nov.

Worker. Length 2.50-2.75 mm.

Differing from the preceding in having the epinotal spines much reduced in size, being less than half as long as the epinotal declivity, triangular in shape and not acute at apex.

Malaita: Anki.

Type.—M. C. Z. 9,187.

### Key to the Papuanian Species.

- Body without strong sculpture; epinotal spines long and acute. (New Guinea).....*polita* Emery.  
At least the thorax coarsely sculptured.....1.
1. Gaster opaque, subtly rugosely striate longitudinally. Length 3.5 mm. (New Guinea).....*opaciventris* Emery.  
Gaster shining. Length 2-3 mm.....2.
2. Antennal scapes not attaining occipital corners; anterior border of clypeus unarmed. (New Guinea).....*brevicornis* Emery.  
Antennal scapes attaining or surpassing occipital corners; clypeus dentate.....3.
3. Pronotum arcuately transversely striate; clypeus obscurely 4-dentate (New Guinea).....*transversa* Emery.  
Pronotum longitudinally striate or punctate.....4.
4. Ferruginous; head and promesonotum with piligerous punctures; clypeus 3-dentate. (New Guinea).....*punctata* Emery.  
Black; head and promesonotum coarsely striate; clypeus 2-dentate...5.

5. Inner edge of mandibles with a broad, blunt thickening. (New Guinea).  
*mandibularis* Viehmeyer.  
 Inner edge of mandibles swollen apically, but the swollen part continuous  
 with the blade. .... 6.  
 6. Epinotal spines as long as the declivity and acute (Santa Cruz).  
*modesta* Mann.  
 Epinotal spines very short and not acute. (Solomons).  
*modesta* subsp. *subarmata* Mann.

66. *PRISTOMYRMEX PEGASUS*, sp. nov.

*Worker.* Length 1.75 mm.

Head, including mandibles, a little longer than broad, with slightly convex sides, broadly rounded corners and nearly straight occipital border. Mandibles strongly curved, their basal borders bluntly dentate anterior to middle, blades acutely 4-dentate. Clypeus concave; with a very short carina basally; anterior border bearing a tooth at each side and feebly bisinuate but not toothed at middle. Antennal scrobes strong, extending two thirds the dis-



FIG. 27.—*Pristomyrmex pegasus* Mann. Worker. Lateral view of thorax and petiole.

tance to occipital corners. Antennal scapes not attaining occipital corners; funicular joints two to seven a little broader than long; terminal joint slender, a little longer than the two preceding taken together. Promesonotum robust, broadly and transversely impressed in front, longitudinally impressed behind, both impressions very shallow; sides of mesonotum elevated behind into thin triangular teeth. Epinotum with equal base and declivity, the former transversely carinate apically; spines strong, as long as declivity. Petiolar node in profile higher than long, narrowly rounded above, anterior surface concave, posterior convex; peduncle short, from above nearly twice as long as broad. Postpetiole rounded, in profile higher than long.

Shining. Mandibles coarsely, sparsely punctate. Head and thorax foveolately punctate, the punctures being coarser and more abundant on the head; clypeus subopaque, densely punctulate; scrobes transversely carinate

in front, smooth behind. Rest of body minutely punctate and very shining.

Everywhere with sparse, scattered, rather stiff, suberect hairs. Pile yellowish.

Santa Cruz: Graciosa Bay.

Only one worker was found. The elevated sides of the mesothorax and the absence of the median tooth on anterior border of clypeus is characteristic of this distinct species.

67. *PRISTOMYRMEX OBESUS*, sp. nov.

*Worker.* Length 2 mm.

Head as broad as long, with convex sides, broadly rounded corners and straight occipital border. Clypeus flat in middle; anterior border with three triangular teeth. Mandibles stout, their basal border dentate at middle; blades strongly 3-dentate. Eyes little convex, located at middle of sides of head. Antennal scrobes broad and shallow, extending half the distance from eyes to occipital corners. Antennae short; scapes somewhat thickened in front of middle and at apex, extending five sixths the distance to occipital corners; first funicular joint much broader and nearly twice as long as the second; joints two to seven moderately transverse; eight and nine a little longer than broad; terminal joint two and one half times as long as broad, broadest in middle and acuminate anteriorly. Promesonotum with a transverse impression in front which is joined at middle by a deeper longitudinal impression; anterior border thinly margined, sides more roundly margined and bluntly bituberculate; inferior corners evenly rounded. Epinotum with subequal base and declivity, the base transversely carinate at middle; declivity concave, margined at sides; spines triangular, acute and nearly as long as declivity. Peduncle of petiole nearly as long as the node; node in profile deeper than long and highest in front, with concave anterior and posterior surfaces and slightly convex dorsum; from above, twice as long as broad, sides straight. Postpetiole from above, as broad as long; in profile, deeper than long and rounded above.

Shining. Mandibles with sparse and moderately strong punctures. Head, except clypeus and antennal scrobes which are smooth and shining, coarsely, foveolately punctate. Thorax punctate similarly to head but much more sparsely. Epinotum, petiole, postpetiole, and gaster very shining, with a few shallow punctures.

Legs and antennae finely punctate. Every where with scattered, fine, erect hairs.

Color ferruginous.

*Female* (deâlated). Length 2.5 mm.

Differing from the worker in having the epinotal spines shorter, the petiolar node thicker and less elevated. The mesothoracic punctures are coarser.

*Male.* Length 2 mm.

Head, excluding eyes, as long as broad, broadly rounded behind. Clypeus slightly convex, narrowly rounded in front. Mandibles very feeble. Eyes less than half as long as head, strongly convex, situated at sides at a distance of two thirds their length from base of clypeus. Antennae stout; scape shorter than eyes; first funicular joint half as long as second; joints two to ten subequal, cylindrical, about twice as long as broad; terminal joint as long as the two preceding joints. Mesonotum with strong Mayrian furrows; longitudinally impressed at middle. Scutellum broader than long, slightly convex. Epinotum with distinct base and declivity; tuberculate at sides. Petiole from above more than twice as long as broad; in profile, slender, twice as long as high, the node evenly rounded and grading into the peduncle. Postpetiole rounded, as long as deep and a little longer than broad. Legs slender.

Shining, finely punctate, with rather stiff black hairs scattered on head and body, legs, and scape; funiculus and legs with fine white pubescence.

Color black. Wings strongly infuscated and hairy, veins, stigma, and hairs fuscous.

Ysabel: Fulakora (Type-locality). Malaita: Auki. Three Sisters: Malapaina.

The only colony that I found, beneath a stone at Fulakora, was a small one, composed of less than a dozen workers, a dealated female, and one male.—*Type*.—M. C. Z. 9,173.

In this small series there is some slight variation in the length of the epinotal spines.

*Pristomyrmex obesus* differs from *quadridens* Emery and *coggii* Emery in not having teeth on the sides of pronotum. The epinotal spines are shorter and thicker in typical *obesus*, but in the following subspecies they are more similar to those of *quadridens*.

67a. *PRISTOMYRMEX OBESUS* Mann, subsp. *MELANOTICUS*, subsp. nov.

*Worker.* Length, 2 mm.

Differ from the typical form in the structure of the epinotal spines, which are much more slender and rather strongly curved upwards, similar to Emery's figure of *quadridens* (Term. fuzet., 1897, 20, pl. 15, fig. 25). The color is dark fuscous to piceous instead of ferruginous.

San Cristoval: Pamua (Type-locality). Wai-ai.

Found beneath a stone.

Two workers in the series are abnormal. Each bears on one side of the pronotum a single elevated tooth similar to those on *quadridens*. The specimens might be considered as abortive atavistic approaches to some ancestral form very close to *quadridens*. On account of the presence of these spines in a species where they are normally absent I consider this character of too little importance to be used in separating certain of the species into the subgenus *Odontomyrmex*. *Type*. — M. C. Z. 9,174.

68. *PRISTOMYRMEX MENDANAI*, sp. nov.

*Worker*. Length 2.25 mm.

Near *P. lucidus* Emery. Head as broad as long, with slightly rounded sides, broadly rounded occipital corners and subtruncate posterior border. Clypeus flat, carinate at base; anterior border tridentate, the lateral teeth acute, the median one obtuse. Frontal carinae acute; antennal scrobe broad and shallow. Base of mandibles with large obtuse tooth, blades quadridentate. Antennal scapes slightly surpassing occipital corners; funicular joints, except the first and those forming the club, somewhat broader than long. Eyes small and slightly convex, situated at sides of head a little in front of middle. Promesonothorax convex in profile, without pronotal spines and with obtusely angulate inferior corners; with a broad median impression extending along the dorsum to declivity of epinotum. Epinotal spines broad at base and acuminate and curved apically. Epinotal declivity concave and broadly margined at sides. Petiolar node as long as peduncle, higher than long; highest in front; convex above; concave on posterior surface; from above, longer than broad and narrowed anteriorly, truncate behind. Postpetiole broader than petiole and slightly broader than long, with straight borders in front and behind and slightly convex sides. The anteroventral margin acutely angulate in profile.

Very shining. Mandibles finely punctate. Head and thorax with scattered and shallow punctures, the spaces between smooth. Petiole, postpetiole, and gaster sparsely and finely punctate.

Everywhere with moderately abundant fine and long pile.

Uniformly brownish red.

Santa Cruz: Graciosa Bay.

Two workers found beneath stones. This species resembles *lucidus* Emery, but is smaller and differently colored, the promesonotal dorsum is strongly impressed and the middle tooth on the border of clypeus is not acute. The closely related *P. levigatus* Emery has the sides of prothorax denticulate in front.

69a. *ROGERIA* *STIGMATICA* Emery.

Term. fuzet., 1897, 20, p. 589, ♀.

*Worker.* Length 2.25–2.50 mm.

*Female* (deilated). Length 2.75 mm.

Differing from the worker in the following characters: — the epinotal spines are longer. The mesonotum and scutellum are strongly striated longitudinally. The striae on base of epinotum are stronger. The petiolar node in profile is narrower and the peduncle a little longer.

*Male.* Length 1.75 mm.

Head, excluding the mandibles, a little broader than long, broadest behind, with rounded corners and straight occipital border. Clypeus convex, anterior border rounded. Mandibles large, their blades dentate. Antennae 14-jointed, slender, thickened distally; scape thickened in front of middle, extending two thirds the distance to occipital corners; funicular joints longer than broad; terminal joint four times as long as broad and equal in length to the two preceding joints together. Eyes convex, located at about one fourth their length from base of mandibles. Ocelli rather flat, situated in large foveae. Mesonotum with strong Mayrian furrows; elevated in front. Scutellum broader than long, convex. Epinotum long, with subequal base and declivity. Petiolar node low, the anterior surface shorter and more convex than the posterior; peduncle as long as node, flattened above, sides margined. Postpetiole longer than high, with a flattened anterior dorsal surface and short convex posterior surface above, broader than long, broadest in front, with obtusely angulate anterior corners. First gastric segment somewhat compressed dorsoventrally. Legs long, not very slender. Wings with long and narrow stigma and a single large cubital cell.

Somewhat shining. Mandibles and clypeus finely punctate. Front of head rugosely punctate, posterior portion of head and pronotum finely punctate. Mesothorax and scutellum rugosely striolate; epinotum finely and densely punctate. Petiole, postpetiole, gaster, and legs finely punctulate and shining.

Fine, long, and semirecumbent pale hairs throughout, but most abundant on head, thorax, and gaster.

Color yellowish brown; pronotum, thoracic pleurae, petiole, and postpetiole lighter. Legs, clypeus, and antennae yellow. Wings hyaline, veins pale, with dense pale hairs.

Ysabel: Fulakora. Ugi: Pawa.

Occurs in small colonies beneath stones in damp localities. This species has a curious exudating habit. When the nest is disturbed the

workers twist the gaster to one side and emit from the anal opening a cylindrical white mass of viscid matter, often up to ten millimeters in length, that resembles a small worm. While being emitted, this curls and twists in a life-like manner so that the first time it was observed and before I had located the motionless ant, I mistook it for a cluster of very small worms. This same habit is common also to an undetermined Fijian species, probably of the same genus. *Type*.—M. C. Z. 9,175.

70. *ROGERIA EPINOTALIS*, sp. nov.

*Worker*. Length 2-2.25 mm.

Head longer than broad, broadest behind, with rounded corners and straight occipital border. Mandibular blades with five small teeth. Clypeus convex, rounded anteriorly. Antennal scape extending two thirds the distance to occipital corners, first funicular joint a little longer than the two succeeding joints taken together, joints two to six strongly transverse, seven to nine less strongly so, terminal joint equal in length to the three preceding joints. Eyes little convex, situated at sides of head at a distance equal to their longitudinal diameter from bases of mandibles. Promesothorax robust, evenly convex above and at sides. Humeral angles obtuse. Epinotum broadly and strongly concave; base very distinctly margined in front and at sides; declivity indistinctly separate from base and more strongly concave; spines a little longer than their width at base, acuminate, divergent. Petiolar node in profile deeper than long, not narrowed above, with convex dorsum and slightly convex anterior and posterior surfaces; from above, twice as broad as long; peduncle nearly as long as the node. Postpetiole in profile longer than high; anterior surface short and flat, dorsal and posterior surfaces convex; from above, one and one third times as broad as long, broadest in front of middle, with narrowly rounded sides. Legs rather stout.

Shining. Mandibles sparsely punctate. Head rugose and carinate. The carinae between antennal scrobes subparallel, on vertex more irregular and becoming somewhat reticulate. Those in scrobes more widely separated and oblique. Promesonotum with coarse punctures, which are widely separated in front, very sparse on disc and coarser, becoming confluent posteriorly. Pleurae coarsely punctate, except the metapleurae which are smooth and very shining below, with a margin of coarse punctures above. Base and declivity of epinotum smooth and very shining except for a delicate transverse carinula between the two surfaces. Anterior face of petiolar node and peduncle smooth and very shining; rest of petiole and the postpetiole coarsely punctate. Gaster, legs, and antennae minutely punctulate and shining.

Head and body, excepting epinotum (which is glabrous), anterior surface of



petiolar node and the peduncle with long silky, flexuous hairs, which are semirecumbent on posterior portions of gaster and erect elsewhere. Antennae and legs with shorter hairs.

Color ferruginous; legs, antennae, and mandibles testaceous. Pilosity white.

*Female.* Length 2.25 mm.

Ocelli small. Similar to worker. The petiolar node is thicker and the epinotal spines stronger. Wings hyaline. Veins and stigma brown.

Ysabel: Fulakora (Type-locality). Ugi: Pawa. San Cristoval: Star Harbor. Malaita: Auki.

Described from a few specimens found in very small colonies beneath stones. The concave and impunctate epinotum, the stronger spines, the irregular punctation of the pro- and mesothorax, the smaller size and different coloration distinguish it from the preceding species. *Type*.—M. C. Z. 9,176.

#### 71. *TETRAMORIUM SALOMO*, sp. nov.

*Worker.* Length 2.50 mm.

Head a little broader than long, sides in front of eyes somewhat convergent, occipital border shallowly concave. Mandibles 6-dentate, the two anterior teeth larger than the others. Clypeus subcarinate at middle, straight at anterior border. Frontal carinae delicate though distinct, scrobes poorly defined. Antennal scapes slightly surpassing occipital corners; funicular joints three to seven distinctly transverse, the others as long or longer than broad. Thorax evenly convex in profile, not impressed, humeri narrowly rounded. Epinotal spines very slender and acute, a little longer than their distance apart at tips, nearly straight, extending backward and slightly upward. Inferior epinotal angles produced as flat, triangular spines, rather obtuse at tips and a little more than one third as long as dorsal spines. Petiolar node from above oval, narrowed in front, from the side longer than broad evenly convex above, in front evenly rounding into the slender peduncle; anteroventral spine elongate, rounded at tip. Postpetiole broader than petiole and a little broader than long. Legs rather slender.

Gaster very shining, legs moderately shining, the rest subopaque. Mandibles finely punctate, anterior border with short striae. Clypeus with uneven surface and fine longitudinal striae. Head with a series of serrated, slightly tortuous striae which have a tendency to become reticulate on occiput, the interspaces foveolately punctate and rugulose. Thorax and petiole coarsely

reticulately rugose and punctate between the rugae. Postpetiole more finely sculptured. Gaster smooth.

Pilosity long and abundant, erect on head and body, suberect on appendages. Color brownish yellow with the tip of gaster infuscated.

Malaita: Auki.

Described from one worker.

This species resembles *melleum* Emery from New Guinea in general structure and in the long and slender epinotal spines, but the latter species has the petiole in profile much more narrowed above, the postpetiole distinctly broader than long and broader than the petiole; in *salomo* the postpetiole is not broader than long and the sculpture of the body is very different.

72. *TETRAMORIUM MELANOGENA*, sp. nov.

*Worker.* Length 2.5 mm.

Head longer than broad, about as broad in front as behind, with very feebly convex sides and shallowly concave occipital border. Mandibles with three strong teeth on apical half and three weak ones laterally. Clypeus evenly convex, anterior border straight. Frontal carinae rather strong, little divergent, extending nearly to occipital margins and bordering distinct, though shallow scrobes. Antennal scapes extending about four fifths the distance to occipital corners; first funicular joint as long as the three following joints



FIG. 28.—*Tetramorium melanogyna* Mann. Worker. Lateral view of thorax and petiole.

together, joints two to eight transverse; terminal joint a little longer than the two preceding joints together. Eyes situated at middle of sides of head. Thorax, seen from above, with subangulate humeri, constricted between meso- and epinotum; in profile, with shallow mesoepinotal impression. Epinotal spines nearly straight, longer than their distance apart at base, directed upward and backward; episternal spines thick basally, with the apical half narrow and the tips acute. Petiole with a distinct peduncle, a little longer than the node; the node in profile as high as long and highest at posterior margin, with sloping

anterior face and moderately convex dorsal surface, seen from above it is elongate oval and somewhat narrowed in front. Postpetiole subglobular, slightly broader than long and distinctly broader than the petiole. Femora rather strongly thickened.

Shining throughout. Mandibles finely striate. Disc of clypeus with three longitudinal rugae, which continue up the front parallel to an outer pair of frontal rugae and become retulate on vertex and occiput, with the spaces between finely and shallowly punctate. Cheeks and sides of occiput reticulately rugulose, antennal foveae bordered with a ridge that is distinctly angulate at middle of sides of the pro- and the mesonotum. Petiole and postpetiole more finely reticulate, with the sides of the former and especially of the peduncle strongly margined. Gaster with short, parallel striae at base.

Color light brownish yellow with the gaster infuscated.

*Female.* Length 2.80 mm.

Epinotal spines shorter and stouter than in the worker; episternal spines more slender.

Sculpture of head as in worker. Mesonotum and scutellum with longitudinal, somewhat irregular, punctate rugae between. The rest similar to worker.

Color dark brown to black. Wings clear, with pale veins and stigma.

*Ugi:* Pawa (Type-locality). Three Sisters: Malapaina.

The one colony that I found was in a hollow twig, and contained two of the curiously dark-colored females.

This species closely resembles *pacificum* Mayr, but has the petiole less compressed in front. The coloration, yellow-brown, with infuscated gaster, is different.

### 73. *TETRAMORIUM GUINEENSE* (Fabricius).

*Formica guineense* Fabr., Entom. syst., 1793, 2, p. 357, ♀.

Malaita: Auki.

The finding of only one colony of this species indicates that it is not especially abundant in the islands, though no doubt it will eventually become widespread in the plantation districts.

### 74a. *TETRAMORIUM SCROBIFERUM* Emery, var. *ELYSII*, var. nov.

*Worker.* Length 2.75-3 mm.

Head longer than broad, broadest behind eyes; sides in front of eyes nearly straight, occipital corners rounded, border shallowly concave. Mandibles

with five short, subequal teeth. Clypeus moderately convex, bluntly carinate at middle; anterior border almost straight at middle. Antennal scrobes well defined, extending beyond eyes, the carinae bordering the inner sides somewhat crenulate and narrow but conspicuously stronger than the carinae of front and



FIG. 29.—*Tetramorium scrobiferum elysii* Mann. Worker. Lateral view of head, thorax, and petiole.

vertex. Antennae short and thick; scapes extending less than three fourths the distance to occipital corners; funicular joints two to eight twice as broad as long; terminal joint about as long as the two preceding joints. Eyes not very convex, located in front of sides of head a little behind the middle. Thorax robust, the sides nearly straight; all sutures obsolete; prothorax margined at sides, with angulate humeri. Epinotum with base and declivity rounding into each other, the latter flat; spines acute, curving downward, moderately divergent, a little shorter than their distance at base. Petiolar node higher than long, with short pedicel which is angulate at anterior corners. From above globose, as long as broad. Postpetiole broader than petiole and broader than long.

Subopaque. Mandibles punctate and striate, the striae stronger basally. Clypeus with two carinae lateral to the median one. Antennal scrobes opaque and very densely punctate; head finely and reticulately carinate, the interspaces punctate and feebly shining. Thorax and epinotum densely punctate. Petiole and postpetiole rugulose and more shining. First gastric segment uniformly, shallowly, and very densely punctate and opaque; terminal segments punctulate and rather more shining. Antennae punctate. Legs shining.

Pilosity erect, sparse and white in color.

Color ferruginous. Legs lighter.

Three Sisters: Malapaina (Type-locality). Santa Anna.

The workers on which the description is based agree closely with Emery's description of the typical form from Berlinhafen, New Guinea, except in the lighter color. The epinotal spines in my specimens are proportionately longer than shown in the drawing of *scrobiferum* (Term. fuzet., 1897, 20, pl. 15, fig. 31). Type.—M. C. Z. 9,177.

As Emery has pointed out, this curious species approaches *Calyptomyrmex* in the structure of the antennal scrobes, the shortly pedunculate petiole, and the short and thick antennae.

75. *TETRAMORIUM TONGANUM* Mayr.

Verh. K. K. zool.-bot. gesellsch. Wien., 1870, 20, p. 972, 976, ♀.

San Cristoval: Wainoni Bay. Guadalacanan: Aula.

76a. *XIPHOMYRMEX COSTATUS* Emery, subsp. *FLAVESCENS* Emery.

Term. fuzet., 1897, 20, p. 588, ♀.

*Male.* Length 3 mm.

Head, excluding eyes, longer than broad; occipital border straight, the angles broadly rounded. Mandibles similar to those of worker, with strong apical and subapical teeth. Clypeus convex, carinate at middle, broadly rounded in front. Eyes very large and convex, located at a distance equal to one fifth their length from bases of mandibles; ocelli large. Antennae slender, 10-jointed, their scapes surpassing occipital corners; first funicular joint one and one half times as long as broad, second joint longer than the third and fourth together, joints three to eight subequal, cylindrical; terminal joint one and one half times as long as penultimate. Mesonotum rather flat at apical half, without Mayrian furrows. Scutellum transverse, little convex above. Epinotum deeply transversely grooved at base; the rest flat, narrowly margined at sides. Petiole long and slender; petiole as long as node, flattened above and narrowly margined at sides; node longer than high; from above longer than broad, transversely impressed apically. Postpetiole rounded, broader than long. Legs long and slender.

Shining, petiole, postpetiole, and gaster more so than the rest. Mandibles finely strigose. Clypeus with two lateral carinae which are much stronger than the median one. Head, thorax, and epinotum with reticulate carinae. Petiole, postpetiole, and gaster smooth. Legs finely and rather densely, though shallowly punctate. Antennal scapes finely, funiculus rugosely punctate.

With sparse, scattered, semicircumbent hairs throughout. Color testaceous; funiculus, tibiae, and tarsi fuscous. Wings hyaline; veins and stigma fuscous.

Bio. Three Sisters: Malapaina. San Cristoval: Pamua. Malaita: Auki, Interior of. Florida: Tulagi. Russell: West Bay. Ysabel: Fulakora.

The form that I refer to this subspecies is common in the forests, where workers are frequently seen on tree-trunks and leaves. The colonies are small and live in hollow twigs (in most instances rotten ones), beneath bark and more rarely in the ground.

## 77. XIPHOMYRMEX BISMARCKI Forel.

Mitt. Mus. zool. Berlin, 1901, 2, heft 1, p. 17, ♀.

New Georgia: Rubiana Lagoon.

Two workers were found on the ground near the beach.

This species is distinguished from the preceding by its smaller size and the shape of the head, which is shorter, with more convex sides and with the occipital border more concave. The eyes are smaller. The color is reddish brown, except the petiole, postpetiole, and gaster which are brownish yellow.

## 78. TRIGLYPHOTHRIX OBESA (Em. André).

*Tetramorium obesum* Em. André, Rev. entom., 1887, 6, p. 294, ♀.

*Male.* Length 2.75 mm.

Head, excluding eyes, a little longer than broad, broadest behind eyes, posterior angles obtuse, border straight. Mandibles large and well formed, with large, triangular apical and subapical teeth. Clypeus convex, anterior border feebly rounded. Antennae robust, 10-jointed; scapes extending beyond posterior borders of eyes; first funicular joint globose; second joint two and one half times as long as broad and longer than the two succeeding joints together, third joint small; joints four to eight longer than broad, submoniliform; terminal joint slightly shorter than the two preceding joints together. Eyes large and convex, located at a distance of one fourth their longitudinal diameter from anterior corners of head. Ocelli large. Thorax robust, with strongly impressed Mayrian furrows. Scutellum little convex basally, margined at sides; spines reduced to broadly obtusely angulate lamellae. Petiolar node longer than high; from above subglobose and slightly broader than long. Postpetiole from above similar to petiole but broader. Legs long and slender.

Gaster and legs shining, the rest more feebly so. Mandibles punctate. Head irregularly striate, the striae longitudinal on front and clypeus, transverse between eyes and frontal carinae and oblique and somewhat reticulate on vertex and occiput.

Pronotum coarsely punctate, especially at sides. Mesonotum reticulately striate. Scutellum punctate. Epinotum and petiolar peduncle carinate. Petiolar node and postpetiole coarsely but shallowly punctate. Gaster and legs finely punctate.

Pilose everywhere, similarly to worker.

Color testaceous throughout. Wings hyaline, veins and the broad stigma yellowish.

Ugi: Pawa.

The many workers before me, agree closely with André's description and with workers from India received from Dr. Forel. This species, like the related species *striatidens* Emery which Forel has recorded from the Bismarck Archipelago but which I failed to find in the Solomons, appears to be extending its range.

79a. *TRIGLYPHOTHRIX FULVICEPS* Emery, subsp. *ANTENNATA*, subsp. nov.

*Worker.* Length 2.25-2.50 mm.

Head a little longer than broad, about as broad in front as behind, with convex sides, narrowly angled posterior corners and concave border. Mandibular blades 6-dentate, the three basal blades short, the others longer and acute. Clypeus rather strongly convex, sharply carinate at middle; anterior border feebly rounded. Antennal scapes almost attaining occipital corners; funicular joints two to eight slightly transverse; terminal joint longer than the two preceding joints taken together. Eyes large and convex, located at sides



FIG. 30.—*Triglyphothrix fulviceps antennata* Mann. Worker. Lateral view of thorax and petiole.

of head, a little in front of middle. Thorax robust, in profile evenly convex; from above, broad in front with rounded humeral angles and nearly straight sides. Base and declivity of epinotum not distinct; spines divergent, acute, about as long as distance between their bases. Petiolar node in profile as long as high, nearly straight in front, convex above and behind; from above, a little longer than broad, narrowest in front, with convex sides. Postpetiole transversely ovate; broader than petiole.

Somewhat shining, the gaster and legs more so than the rest. Mandibles and clypeus coarsely striate. Head longitudinally striate, the striae becoming reticulate on vertex, sides, and occiput. Thorax, epinotum, petiole, and postpetiole coarsely, cribrately punctate. Gaster coarsely but shallowly punc-

tate basally, more sparsely behind. Everywhere with abundant short silky hairs.

Head and legs, except part of femora, and antennae brownish yellow. The rest dark reddish brown, with the basal half of first gastric segment lighter than the other parts.

Santa Cruz: Graciosa Bay.

Described from specimens taken from a small colony beneath a stone and from several isolated workers.

Very close to typical *fulviceps* but the antennal scapes extend distinctly more than three fourths the distance to occipital corners, the petiolar node is not broader than long and the color is lighter.

80. TRIGLYPHOTHRIX MAYRI, sp. nov.

*Worker.* Length 1.75–2 mm.

Head a little longer than broad, as broad in front as behind, with slightly convex sides, rounded corners and moderately concave occipital borders. Mandibles with five short teeth, the apical and subapical longer than the others. Clypeus convex, carinate at middle, slightly rounded at anterior border. Antennal scapes extending a little more than three fourths the distance to occipital corners; funiculus stout, joints two to eight strongly transverse, terminal joint longer than the two preceding joints taken together. Eyes large and convex, located at sides of head at a distance equal to their longitudinal diameter from anterior corners. Thorax robust, evenly convex above. Epinotal spines triangular, rather stout, about as long as broad at base; episternal spines broader than long. Petiolar node in profile longer than high; the pedicel much shorter than node, from above, subglobose about as long as broad. Postpetiole a little broader than petiole and a little broader than long. Legs stout.

Subopaque, except mandibles, apical segments of gaster and legs which are shining. Mandibles punctate and indistinctly striate. Clypeus longitudinally striate. Head, thorax, petiole, and postpetiole densely and coarsely punctate, the thorax and epinotum faintly and irregularly carinulate. Epinotal declivity smooth. First gastric segment with large but shallow punctures over entire dorsum.

Densely covered with fine, short, white pilosity.

Color brownish yellow; gaster darker than the other parts.

San Cristoval: Star Harbor.

This species approaches *walshi* Forel from British India but differs in the shorter petiole to the first node, in the head being as broad in



front as behind, in the finer striation of the mandibles, and in color. From the closely related *musculus* Forel *mayri* differs in the shape of the petiole which is not transverse. The punctuation of the entire dorsum of the first gastric segment is distinctive.

*Type*.—M. C. Z. 9,178.

81. *TRIGLYPHOTHRIX PULCHELLA*, sp. nov.

*Worker*. Length 1.75–2 mm.

Head longer than broad, little broader behind than in front, with feebly convex sides, rounded posterior corners and shallowly concave border. Mandibles 6-dentate, the three basal teeth indistinct. Clypeus convex, carinate at middle, broadly rounded in front. Antennae stout, their scapes extending three fourths the distance to occipital corners, funicular joints two to eight transverse, terminal joint longer than the two preceding together. Thorax



FIG. 31.—*Triglyphothrix pulchella* Mann. Worker. Lateral view of thorax and petiole.

robust, humeral angles narrowly rounded. Epinotal spines slender, longer than the distance between them at base and strongly divergent. Petiolar node a little broader than long; pedicel short. Postpetiole a little broader than long and only slightly broader than the petiole.

Subopaque, except terminal half of gaster which is shining. Mandibles somewhat shining, punctate, and striolate. Head, thorax, epinotum (except declivous portion), petiole, and postpetiole coarsely and densely punctate. Basal half of first gastric segment punctate and longitudinally striate, the rest finely punctate. Legs and antennae somewhat shining and finely punctate.

Pilosity short, white, and abundant.

Color pale brown; legs, antennae and mandibles lighter, head yellow.

*Female* (deälated). Length 2.25 mm.

Similar to worker. The ocelli are small. The mesothorax and scutellum are rather flat and longitudinally carinate at middle. The striation at base of gaster is stronger than in the worker.

Malaita: Auki.

The very long, slender, and divergent spines readily distinguish this species. *Type*.—M. C. Z. 9,179.

*Key to Papuan Species.*

- Petiolar node distinctly longer than broad (Indo Malaya; Australia; West Indies; North America, Louisiana).....*striatidens* Emery.  
 Petiolar node as broad or broader than long.....1.  
 1. Larger species (length 2.5-3 mm.); mandibles not striate; gaster smooth and shining. (India; Solomons).....*obesa* Em. André.  
 Smaller species (Length 1.75-2.50 mm.), mandibles striate; gaster punctate, at least basally.....2.  
 2. First gastric segment not striate basally, coarsely but evenly punctate throughout; epinotal spines very short. (Solomons)....*mayri* Mann.  
 First gastric segment striate and punctate basally; epinotal spines longer.....3.  
 3. Epinotal spines long, slender and strongly divergent; color pale brown, with head yellow (Solomons).....*pulchella* Mann.  
 Epinotal spines not longer than distance between them at base; color dark reddish brown to black, with head lighter.....4.  
 4. Petiolar node broader than long; antennal scapes extending three fourths the distance to occipital corners; color black, with head and legs reddish brown. (New Guinea).....*fulviceps* Emery.  
 Petiolar node not broader than long; antennal scapes almost attaining occipital corners; color dark reddish brown, head and gaster lighter. (Santa Cruz).....*fulviceps* subsp. *antennatus* Mann.

82. *STRUMIGENYS GODEFFROYI* Mayr.

Sitzungsb. Akad. wiss. Wien, 1866, 63, p. 516, ♀.

Santa Cruz: Graciosa Bay. San Cristoval: Pamua, Wai-ai, Wainoni Bay. Three Sisters: Malapaina. Ugi: Pawa. Malaita: Auki. Ysabel: Fulakora.

This is a very common species. It nests beneath bark or stones or in rotten wood and has been found in Termitaria.

83. *STRUMIGENYS DECOLLATA*, sp. nov.

*Worker*. Length 4 mm.

Form long and slender. Head twice as long as broad, twice as broad at occiput as at clypeus, with narrowly rounded occipital corners and strongly

impressed occipital border; sides convex in occipital region, then evenly concave to and a little past the eyes, and then convex to the clypeal border. Clypeus flattened at base, acuminate behind; in front excavated broadly and triangularly, so that the sides form rectangular lobes. Antennal foveae well defined and margined as far as the eyes, then poorly defined and without margin. Scaepes stout, extending less than two thirds the distance to occipital corners, about as long as mandibles; first funicular joint a little longer than the second and third, which are subequal and two and a half times as long as broad; terminal joint rather stout, one and a half times as long as the penultimate.

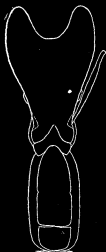


FIG. 32.—*Strumigenys decollata* Mann. Worker.  
Front view of head.

Mandibles long and arcuate, of equal thickness from base to near apex; the inner border a little before the middle has a small, but distinct triangular tooth and anterior to this a second, smaller tooth; midway between this and the terminal tooth is a slender tooth, more than half as long as the terminal ones; upper terminal teeth long and slender, the lower ones much shorter than the others and strongly twisted. Thorax long and slender, the sutures obsolete. Promesothorax narrowed anteriorly into a neck, which is feebly margined; broadest behind middle, with convex surface and rounded sides, evenly sloping behind to the epinotum. Epinotum in profile flattened basally, rounded at sides; armed with two stout triangular spines, which are about as long as the very short declivity. Peduncle in profile shorter than the node,

which is nearly twice as long as high and feebly convex above; seen from above more than twice as long as broad, the sides subparallel to near the apex, then divergent. Postpetiole from above a little broader than long, campanulate in shape, broadest behind, narrowed in front, rounded above and at sides. Gaster short and stout. Legs long and slender.



FIG. 33.—*Strumigenys decollata* Mann. Worker.

Mandibles shining, finely punctate. Clypeus shining, with scattered punctures. Head feebly shining, densely and reticulately punctate; vertex more finely than the rest. Thorax more shining, with widely separated, strong punctures. Base of epinotum smooth and very shining. Petiole

shining, with moderately coarse punctation. Postpetiole more shining, with sparser punctation. Gaster very shining, finely and sparsely punctate. Legs somewhat shining and strongly punctate.

Occipital margin, mandibles, and tip of gaster with very sparse and fine erect pile. Scapes with a row of ten to twelve stout curved hairs, funiculus with appressed and glistening hairs. Legs with sparse, appressed hairs. Petiole and postpetiole with fungiform processes in a narrow band at the apical margins and more abundantly on the ventral surface. The greater part of the body is without erect pile or pubescence.

Color reddish brown; pilosity white.

*Male.* Length 2.25 mm.

Head, excluding eyes, longer than broad; sides rounded; occipital border shallowly concave between the posterior ocelli. Cheeks a third as long as the eyes. Clypeus convex basally, anterior border feebly concave. Mandibles short; bidentate at apex. Eyes convex, their longitudinal diameter as long as their distance from the posterior ocelli. Antennae 13-jointed; scape less than twice as long as it is broad at base; first funicular joint as thick as the scape and more than half as long; remaining joints very gradually becoming longer toward apex; terminal joint one and a half times as long as the penultimate. Pronotum flattened and collar-like in front. Mesonotum rounded above; with strong Mayrian furrows. Scutellum broader than long, rather flat in front, convex behind. Epinotum flattened basally; its very distinct declivous portion flat and broadly margined at sides. Petiole in profile rounded above, much longer than high; from above, twice as long as broad. Postpetiole a little longer than broad, rounded above and at sides; in profile a little longer than deep. Legs slender.

Head and thorax subopaque; very densely punctate. Petiole and postpetiole punctate at sides; above smooth and shining. Gaster very shining. Legs subopaque, with fine but dense punctation.

Antennae with abundant, glistening white oppressed hairs, as in the worker. Legs with a few fine hairs which are more abundant on the tarsi. The rest of the body is without pilosity except for a very few hairs on the thorax and apically on the gaster.

Color black; the head and thorax intensely so, the rest dilute.

Wings hyaline. Veins and stigma brown.

Ysabel: Fulakora.

#### 84. *STRUMIGENYS ANTAEUS*, sp. nov.

*Worker.* Length 3.25 mm.

Near *S. chyzeri* Emery.

Head broadly cordate, deeply excavated behind, occipital corners narrowly rounded, sides strongly constricted in front of eyes; cheeks swollen basally,

but not angulate. Clypeus flattened at base; convex in front, end divided into two lobes by the strong, triangular medial incision. Mandibles in length about equal to the distance from their base to the eyes; thickened in front of middle as in *chyeri* and armed with two long teeth at apex and a short and curved tooth situated dorsally on the swollen position and not extending to the inner mandibular margin. Antennal scapes extending more than half the



FIG. 34.—*Strumigenys antaeus* Mann. Worker. Front view of head.

distance to occipital corners; funicular joints two and three scarcely longer than broad; fourth joint as long as the three preceding joints. Eyes little convex, composed of about twelve ommatidia. Prothorax flat above; margined at apical third of sides; humeral angles rounded, the disc with irregular carinae. Promesonotal suture marked by a carina. Mesonotum flattened basally, then declivous to the feeble mesoepinotal impression; margined at sides. Epinotum with subequal base and declivity; base flattened, twice as long as broad and indistinctly margined at sides, declivity convex, twice as long as broad and sharply margined at sides; spines stout, half as long as base of epinotum. Peduncle of petiole longer than the node; node in profile

rounded above; from above, longer than broad, with a margin of spongiform appendages behind. Postpetiole transverse, with a narrow border of spongiform appendages in front, on sides and behind. Legs long and rather stout.

Mandibles shining and rather closely punctate. Head, thorax, epinotum, and petiole feebly shining, granulosely punctate and with reticulate carinulae which are most abundant on the head, and lacking on the epinotum and petiole. Postpetiole and gaster more shining and densely punctulate. Legs somewhat shining, densely punctate. Head and body with scattered, erect, and strong pile; first gastric segment costate at base; pile of scapes and legs semierect and very strongly curved.

Color brownish yellow; mandibles darker.

Ysabel: Fulakora.

A number of workers were found beneath leaves on the ground and a colony in rotten wood. The deeply excavated clypeus readily distinguishes *antaeus* from *chyeri* Emery which has the anterior border arcuate. The two species are closely related. *Strumigenys lorae* Emery from New Guinea has the short mandibular spine before the two terminal ones, situated dorsally, and the cheeks are markedly angulate midway between the eyes and the clypeus. *Type*.—M. C. Z. 9,180.

84a. *STRUMIGENYS ANTAEUS* Mann, var. *FUSCIOR*, var. nov.

*Worker.* Length 2-2.25 mm.

Differing from the preceding in its smaller size and in coloration, being reddish brown, with the gaster, except the apex much darker than the rest of the body.

San Cristoval: Pamua. Ugi: Pawa. Malaita: Auki.

Szabo (Ann. Mus. nat. Hung., 1910, 8, p. 368) states that Biro found in New Guinea large and small workers of *S. loriae* Emery, in the same nest, indicating polymorphism in the species. The specimens that I have separated from *antaeus* as the variety *fuscior* certainly are very similar in structure to the type form, but they were found always in separate colonies, the larger and smaller forms never together. I have seen no specimens intermediate in size between the two.

85. *RHOPALOTHRIX ISABELLAE*, sp. nov.

*Worker.* Length 3 mm.

Head about as long as broad; strongly excavated behind and with obtusely angulate corners; oblique portions of sides with straight margin. Clypeus narrowed behind and broadly and shallowly concave in front; the suture separating it from the front shallow and rather poorly defined. Mandibles strongly constricted at basal third and much more slender than in the related species. Antennal scapes at base about a third as broad as long; funicular joints two and three only slightly transverse, joints three and four longer than broad, terminal joint longer than the four preceding joints together. Pronotum shallowly impressed at middle and obtusely gibbous on either side; humeral angles rounded, without any indication of tubercles. Promesonotal suture obsolete. Mesonotum slightly convex in front, and depressed behind. Mesoepinotal suture distinct. Base of epinotum strongly impressed mesally, marginate at sides of impression, separated from the concave declivous portion by an acute margin; spines short and obtuse apically, their bases extended as narrow lamellae along borders of declivity. Petiolar node longer than broad, slightly broadest apically and very feebly convex at sides and front; flat above; about as long as peduncle. Postpetiole one and a third times broader than long, narrowed in front, sides little convex; dorsal surface with a faint medial impression which terminates in front in a broad and shallow fovea; strongly



Fig. 35.—*Rhopalothrix isabellae* Mann. Worker. Front view of head.

impressed at apex and elevated into an obtuse tubercle on either side of impression. First gastric segment indistinctly impressed at middle of base.

Mandibles shining and punctate. Head feebly shining. Clypeus strongly and foveolately punctate; front reticulately and rugosely punctate; vertex with two large shallow foveae and cribriform punctures between. Promesothorax coarsely and reticulately costate and subopaque. Epinotum at sides more finely costate; impressed portion foveolately punctate; declivity smooth and shining. Petiole finely rugose. Postpetiole and gaster more shining and uniformly cribrate. Antennae and legs coarsely and densely subopaque.

Fine, squamiform hairs on head and antennal scapes, coarse ones on legs. Clavate hairs on legs, outer border of scape and one in each of the two foveae on vertex; fine hairs on funiculus, tarsi, and ventral surface of gaster.

Fuscipiceous; legs, mandibles, antennae, and lamellate borders of epinotum fuscous. Hair white.

Ysabel: Fulakora.

The single worker of this anomalous species was found beneath a log in the forest. The curious form of the mandibles and the relatively long postpetiole readily distinguish *isabellae* from the other Papuan species. The lack of clavate hairs on the dorsal surface is probably not due to their being rubbed off, for such hairs are abundant on the legs.

86a. RHOPALOTHRIX PROCERA Emery, subsp. MALUA, subsp. nov.

*Male.* Length 3 mm.

Head, excluding eyes, much longer than broad; sides posterior to eyes parallel,<sup>5</sup> then oblique to the occipital border which is shallowly concave.



FIG. 36. — *Rhopalothrix procera malua* Mann. Worker. Front view of head.

Vertex broadly and deeply impressed between the ocelli. Frontal carinae strongly elevated. Clypeus convex; concave anteriorly and angulate at sides. Mandibles small and acuminate apically. Antennae slender, scape broad basally, twice as long as first funicular joint; first funicular joint about a third as long as the second; joints two to eleven elongate and cylindrical, becoming shorter toward apex; terminal joint one and a half times as long as penultimate. Eyes shorter than border of clypeus, very convex. Mesothorax flattened posteriorly and impressed at middle. Scutellum about as long as broad, and rather flat above. Epinotal spines rounded apically. Petiolar node as long

as broad; impressed at middle of posterior border; anteroventral spine long and slender. Postpetiole much broader than long; with a short longitudinal impression at middle of apex.



FIG. 37.—*Rhopalothrix procera malua* Mann. Worker. Lateral view of thorax, petiole, and abdomen.

Opaque, except gaster and legs which are very faintly shining. Densely and coarsely punctate throughout, with the punctation of gaster and legs somewhat more shallow than the rest. Above with sparse, semiclavate hairs and scattered fine and recumbent pilosity, ventral surface and coxae with fine, long, and erect hairs. Legs and antennae with recumbent pilosity.

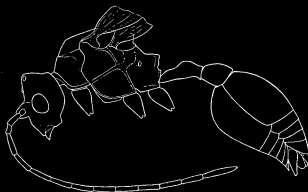


FIG. 38.—*Rhopalothrix procera malua* Mann. Male. Lateral view.

Black; mandibles, antennae, lamellate extensions of epinotal spines, apex of gaster and legs, except coxae, fuscoferruginous.

Wings (length 3.5 mm.) strongly infuscated; veins brown.

Santa Cruz: Graciosa Bay. San Cristoval: Pamua, Wainoni Bay, Wai-ai. Three Sisters: Malapaina. Ysabel: Fulakora. Rendova.



A large series of workers from several localities agree with Emery's description of *procera* except that the postpetiole is not margined at sides and the size averages smaller. (Length 3-3.5 mm.)

The female is distinctly smaller (Length 4 mm.) than in typical *procera*, though agreeing in other respects. The wings are rather strongly infuscated, with brown veins.

Small colonies were found between layers of rotten wood or beneath bark when there was moisture. It is a very slow moving species.

There is considerable variation in the color of the workers, from rufotestaceous to rufofuscous, though none approach the very dark f of the following variety. *Type*.—M. C. Z. 9,181.

86b. RHOPALOTHRIX PROCERA Emery, subsp. MALUA Mann, var. MELANOTICA, var. nov.

A single worker from Tulagi is different from any of the large series of the preceding form before me in being piceofuscous in color, much darker than the most extreme of subsp. *malua*.

*Key to Papuanian Species.*

- |   |                           |
|---|---------------------------|
| Smaller species, less than 2 mm. in length.....   | 1.                        |
| Larger, more than 2 mm. in length.....  | 3.                        |
| 1. Petiolar node not longer than broad; front with a transverse impression between clypeus and vertex (New Guinea).....   | <i>brevicornis</i> Emery. |
| Petiolar node twice as long as broad; front without transverse impression.....  | 2.                        |
| 2. Head broader; very shallowly and broadly excavated behind. (New Guinea).....   | <i>punctata</i> Szabo.    |
| Head narrower, more deeply and narrowly excavated behind. Head, thorax, and abdomen with clavate and squamiform hairs intermingled. (New Guinea).....                         | <i>mixta</i> Szabo.       |
| 3. Oblique portions of sides of head convex in outline; occipital border feebly concave; supraocular portion of head with squamiform scales. Length 2.3 mm. (New Guinea)..... | <i>biroi</i> Szabo.       |
| Oblique portions of sides of head slightly concave in outline; occipital border strongly concave; hairs on front uniformly distributed.....                                   | 4.                        |
| 4. Outer border of mandibles strongly concave before middle, so that the apical portions are slender. Humeral angles evenly rounded. (Solomons).....                          | <i>isabellae</i> Mann.    |
| Mandibles of usual form, not constricted. Humeral angles subgibbous.....  | 5.                        |

5. Postpetiole margined at sides. Length 3.5-4.5 mm.....*procera* Emery.  
 Postpetiole not margined at sides. Length 3.-3.5 mm.....6.  
 6. Color fuscoferruginous (Solomons).....*procera* subsp. *malua* Mann.  
 Color piceous. (Solomons)...*procera* subsp. *malua* var. *melanotica* Mann.

## DOLICHODERINAE.

87. *TURNERIA PACIFICA*, sp. nov.

*Worker.* Length 2.25 mm.

Head a little longer than broad, nearly as broad in front as behind, with convex sides and very shallowly concave posterior border. Mandibles with six teeth, the third and fifth smaller than the others. Anterior border of clypeus almost straight except at sides, where it is concave; posterior border broadly rounded. Frontal area obscure. Frontal carinae very feeble, extending a little beyond anterior border of eyes. Eyes elongate, large, nearly a third as long as head; situated on sides of front, a little posterior to middle. Antennal scapes slender, almost attaining occipital corners; funicular joints longer than broad. Pronotum slightly broader than long, surface rather flat; humeri with an elevated, elongate process, like a short carina. Mesonotum longer than broad. Mesoepinotal impression broad and deep. Base of epinotum convex, subtriangular, truncate behind; in profile the posterior margin appearing bluntly cone-shaped and extending over the short and very



FIG. 39.—*Turneria pacifica* Mann. Worker. Front view of head.



FIG. 40.—*Turneria pacifica* Mann. Worker. Lateral view of thorax and petiole.

concave declivity. Scale twice as high as long, convex in front, straight behind, rounded above. Gaster short, oval.

Occiput and gaster shining, the rest subopaque; very finely punctate throughout; and microscopically pruinose. Clypeus and front with a few erect hairs.

Gaster black, the remainder yellow-brown; terminal joint of funiculus darker.

Santa Cruz: Graciosa Bay.

Described from a single worker.

This is the fourth species of *Turneria*. Nothing is known regarding the habits of these interesting ants.

### Key.

1. Eyes smaller, hemispherical. Thorax margined. Smooth and shining color black. Length 2-8 (Australia)..... *franchi* Forel.  
Eyes large and flat. Thorax not margined, or only pronotum with short margin. Subopaque species..... 2.
2. Funicular joints as broad as long; antennal scapes extending only slightly beyond border of eyes. Mesonotum twice as long as broad. Reddish brown, gaster blackish, funiculus brown. Length 2.5-2.7 mm. (Queensland)..... *bidentata* Forel.  
Funicular joints longer than broad; antennal scapes almost attaining occipital borders of corners of head. Mesonotum less than twice as long as broad..... 3.
3. Pronotum much broader than long. Black; legs and funiculus dark brown, mandibles, front of head, scapes, and tarsi yellow. Length 2.2-2.3 mm. (Bismarck Archipelago)..... *dahli* Forel.  
Pronotum but little broader than long. Yellow-brown; gaster black. Length 2.25 mm. (Santa Cruz)..... *pacifica* Mamm.

### 88. IRIDOMYRMEX MYRMECODIAE Emery.

*Iridomyrmex cordatus* var. *myrmecodiae* Emery, Ann. Mus. civ. stor. nat. Genova, 1887, 24, p. 249, ♀.

Santa Cruz: Graciosa Bay. Santa Anna. Three Sisters: Malapaina. Malaita: Auki. Ysabel: Fulakora. Florida: Tulagi. San Cristoval: Wai-ai.

This is one of the most abundant ants in the Solomons. It nests sometimes beneath bark or in crevices on standing trees, but usually in bulbs of an epiphyte, *Myrmecodia* sp. (?*M. guppyanum*), which grows on the branches of several species of trees and is especially common on a lowland-inhabiting species of *Barringtonia*. It has been shown that *Myrmecodia* can thrive without the presence of ants, but I am sure that few of this species do, for among the many that I cut open, none were without them. Even very young bulbs, less than an inch in diameter, contained incipient colonies.

There is considerable variation in color among the very large series before me. The Santa Cruz examples and some from Wai-ai have the gaster jet black; in the majority of the specimens it is more dilute.

89a. *IRIDOMYRMEX ANCEPS* Roger, subsp. *PAPUANUS* Emery.

Ann. Mus. civ. stor. nat. Genova, 1897, 38, p. 572, ♀.

New Georgia. Rubiana Lagoon.

Three workers agree closely with Emery's description.

Two additional species of *Iridomyrmex* among my material are represented only by worker minors.

90. *IRIDOMYRMEX RUFONIGER* (Lowne) var.?

*Formica rufonigra* Lowne, Ent., 1865, 2, p. 279.

Malaita: Auki.

Several workers were found on trunks of trees near the beach.

91. *IRIDOMYRMEX DIMORPHUS* Viehmeyer.

Abh. berichte K. zool. anthr.-ethn. mus. Dresden, 1912, 14, no. 1, p. 7, pl. 1, fig. 7, 7a, 7b, ♀.

*Worker.* Length 4-6 mm.

Head a little longer than broad, moderately narrowed in front, posterior corners narrowly rounded, border deeply concave. Mandibles stout, with a larger blunt apical tooth and four to eight smaller teeth. Clypeus slightly convex, anterior border straight. Frontal carinae very short. Antennal scapes barely attaining occipital corners; first funicular joint a little longer than the second; second joint one and two thirds as long as third, remaining joints gradually increasing in thickness. Eyes large, not very convex, situated in front of sides anterior to middle. Pronotum broader than long, evenly rounded above and at sides. Mesonotum elongate oval, twice as long as broad. Mesoepinotal suture broadly impressed, with prominently tuberculate spiracles. Base of epinotum rounded, twice as long as broad; a little longer than the declivity into which it broadly rounds. Petiolar node thick, in profile triangular above, sides narrow. Legs very long and slender.

Shining. Mandibles rugulose. Finely punctate and covered with pruinose pubescence, which is most dense on gaster and thoracic pleurae. Rather stiff erect hairs scattered on head, body, and appendages.

Black. Mandibles and funiculus brown.

Malaita: Interior near Gwountafu. Ysabel: Fulakora.

Described from numerous workers that were travelling across a path.

Workers were kindly compared by Professor Emery with cotypes, who writes that they are identical with the smaller workers of *dimorphus*, though the largest of the type lot is much longer (9 mm.) than any that I found.

92. *TECHNOMYRMEX ALBIPES* (F. Smith).

*Formica (tapinoma) albipes* Smith, Journ. proc. Linn. soc. Zool., 1862, 6, p. 38, ♀.

San Cristoval: Wai-ai, Wainoni Bay. Ugi: Pawa. Bio. Malaita: Auki. Ysabel: Fulakora.

An abundant species, nesting beneath stones, logs, or bark, or in little shelters made of vegetable debris on leaves. It is fond of attending scales. One nest sheltered two pupae of a myrmecophilous fly, (*Bardistopus* sp. nov.) from which I reared adults.

CAMPONOTINAE.

93. *ACROPYGA (ACROPYGA) MOLUCCANA* Mayr, subsp.  
PAPUANA, subsp. nov.

*Worker.* Length 2.5-2.75 mm.

Differing from typical *moluccana* as figured by Emery (Ann. Mus. civ. stor. nat. Genova, 1900, 40, p. 698, fig. 13a) only in the shape of the head, which has the sides much less convex, more as in *crassicornis* Emery, but differing from the latter in having occipital border concave and the penultimate antennal joint a little longer than broad, instead of transverse. The tegument is feebly shining. The color is brownish yellow.

Ugi: Pawa (Type-locality). Malaita: Auki. San Cristoval: Wainoni Bay, Star Harbor. Ysabel: Fulakora.

A very common species, found in populous colonies beneath stones or logs. *Type*.—M. C. Z. 9,182.

93a. *ACROPYGA* (*ACROPYGA*) *MOLUCCANA* Mayr, var. *OPACA* Stitz.

Sitzungsber. Gesellsch. nat. Freunde Berlin, 1911, p. 370, f.

Malaita: Interior near Gwountafu.

I am referring with doubt to this variety several workers and a female which are darker in color and somewhat less shining than the preceding form.

94. *ACROPYGA* (*RHIZOMYRMA*) *LAUTA*, sp. nov.

*Worker.* Length 1.50 mm.

Near *oceanica* Emery.

Head a little longer than broad, as broad in front as behind; sides feebly convex; posterior angles rounded, border slightly concave. Mandibles narrow, with four separated, acute teeth. Clypeus truncate at middle of front, obtusely angulate at side of truncated portion. Antennal scapes not attaining occipital corners; first funicular joint more than twice as long as broad; second joint campanulate, longer than broad; joints three to six a little broader than long; terminal joint as long as the three preceding joints. Eyes minute, situated in front of sides of head at anterior third. Thorax stout. Posterior half of pronotum strongly convex, in front concave. Mesonotum longer than broad, rather flat above. Epinotum with base convex and evenly rounding into the declivity, which is flattened and twice as long as the base. Petiolar node erect, narrow. Gaster elongate.

Shining throughout. Mandibles punctate. Head and gaster with dense, fine, and shallow punctation, which is somewhat coarser on the gaster.

Head, gaster, and legs finely and densely pubescent, thorax and epinotum sparsely so.

Color yellow; head slightly darker, mandibular teeth brownish to black.

*Female.* Length 2.25.

Head broader than long. Ocelli large. Frontal sulcus shallow. Eyes a third as long as head, feebly convex. Antennal scapes slightly surpassing occipital corners.

Wings (length 2.75 mm.) hyaline, veins and stigma fuscous.

San Cristoval: Pamua, Wainoni Bay. Malaita: Auki.

Workers and females in a small series taken from beneath a stone differ from Emery's descriptions and figure of *oceanica* in having the

head longer, the occipital border distinctly though shallowly concave instead of truncate, and the frontal lobes divided by a broad triangular space. *Type*.—M. C. Z. 9,183.

95. *PLAGIOLEPIS LONGIPES* (Jerdon).

*Formica longipes* Jerdon, Madras journ. litt. sci., 1851, 17, p. 122, ♀.

Santa Cruz: Graciosa Bay. Throughout the Solomons.

*Plagiolepis longipes* occurred in all the localities visited; it belongs to the group of insects that is rapidly being distributed throughout the world, and associated indirectly with man. Like the other members of this anthropophilus fauna, it prefers to nest in cleared land, under stones, logs, or debris, or in the ground. I frequently found it in the forest, but on every occasion, it is interesting to note, there were signs of former native villages or clearings, indicating that the species invariably establishes its colonies in the vicinity of human habitations.

96. *PRENOLEPIS (NYLANDERIA) LONGICORNIS* (Latreille).

*Formica longicornis* Latr., Hist. nat. fourmis, 1802, p. 113, ♀.

Santa Cruz: Graciosa Bay. Santa Anna.

This species was found in all the localities visited.

97a. *PRENOLEPIS (NYLANDERIA) MINUTULA* Forel, subsp.  
          *ATOMUS* Forel.

Mitt. Zool. mus. Berlin, 1901, 2, heft 1, p. 25, ♀.

Ugi: Pawa. Ysabel: Fulakora.

Occurs in small colonies beneath stones.

98. *PRENOLEPIS (NYLANDERIA) VIVIDULA* Nylander.

Acta Soc. sci. Fenn., 1846, 2, p. 900, ♀ ♀ ♂.

Ugi: Pawa.

99a. *PRENOLEPIS* (*NYLANDERIA*) *OBSCURA* Mayr, subsp.  
*BISMARCKENSIS* Forel.

Mitt. Zool. mus. Berlin, 1901, 2, heft 1, p. 26, ♀ ♀ ♂.

San Cristoval: Wainoni Bay. Ysabel: Fulakora.

100. *PRENOLEPIS* (*NYLANDERIA*) *STIGMATICUS*, sp. nov.

*Worker.* Length 2.25–3.25 mm.

Head elongate nearly as broad in front as behind; sides slightly convex; posterior border nearly straight. Mandibles slender, arcuate with six acute triangular teeth, the third and fifth distinctly smaller than the others. Clypeus convex, broadly rounded in front. Antennae very long and slender,



FIG. 41.—*Prenolepis* (*Nylanderia*) *stigmaticus* Mann. Worker. Lateral view of head, thorax, and petiole.

their scapes surpassing occipital corners by five eighths their length; first funicular joint nearly twice as long as the second; joints three to seven about four times as long as broad; joints eight to ten a little shorter; terminal joint shorter than the two preceding joints together. Eyes large and convex, situated in front of sides a little anterior to middle. Pronotum about as long as broad, slightly convex. Mesonotum much longer than broad; the flat meso-epinotal suture strongly impressed. Basal portion of epinotum very convex and rounding into the flat declivous surface which it equals in length; stigmata situated at middle of sides of declivity prominently tuberculate. Petiolar node broadly cuneiform.

Shining, with shallow microscopic punctures on head. Mandibles subtly punctate.



Very coarse, stiff hairs moderately abundant on head, body, and appendages. Color pale brownish yellow throughout. Hairs black.

San Cristoval: Wai-ai (Type-locality). Ugi: Pawa. Three Sisters: Malapaina.

A very distinct species, resembling *steelii* Forel in the variation in size among workers from the same colony, but differing in having the antennal joints longer, in the flattened mesonotum, and in sculpture.

101a. *OECOPHYLLA SMARAGDINA* Fabricius, var. *SUBNITIDA* Emery.

Ann. Soc. ent. France 1892, 60, p. 565, ♀.

Ugi: Pawa. San Cristoval: Wai-ai. Santa Anna. Three Sisters: Malapaina. Bio. Malaita: Auki. Florida: Tulagi. Russell: Yandina: West Bay. Ysabel: Fulakora. Guadalcanar: Rere.

This species was exceedingly abundant in certain localities. On Malapaina, where trees were being felled, it occurred in such numbers as to seriously interfere with collecting. Their nests had been destroyed by the falling of the trees and the workers were very pugnacious. The larger workers are able to bite appreciably and, during the several days that I spent collecting among the branches there were few moments in which one or more were not biting me.

102. *OPISTHOPSIS MANNI* Wheeler.

Bull. M. C. Z., 1918, 62, p. 361, pl. 3, fig. 25, 26, ♀ ♀.

San Cristoval: Wai-ai. Three Sisters: Malapaina. Malaita: Auki. Russell: Yandina.

This is an arboreal species. The only colony that I found consisted of about a dozen workers and a dealated female. It was beneath a piece of loose bark on a recently felled tree. The workers move with such rapidity that it is almost impossible to collect them without injury.

103. *CAMPONOTUS* (*MYRMOTURBA*) *MACULATUS* Fabricius, subsp.  
*NOVA HOLLANDIAE* Mayr, var. *PAPUA* Emery.

Lorentz's Nova Guinea, 1911, 9, p. 256, 2.

Santa Cruz: Graciosa Bay. San Cristoval: Wai-ai, Wainoni Bay. Ysabel: Fulakora.

- 103a. *CAMPONOTUS* (*MYRMOTURBA*) *MACULATUS* Fabr., subsp.  
*SANCTAE CRUCIS*, subsp. nov.

*Soldier*. Length 7.5-8 mm.

Head short and broad, slightly narrowed in front; broadly but very shallowly excised posteriorly, posterior corners rather prominent. Mandibles stout, 6-toothed. Clypeus broadly rounded at anterior border. Antennae slender, their scapes extending about one fifth their length past the occipital corners.

Shining; finely shagreened. Mandibles shining, punctate, and striate apically. Clypeus, front, and cheeks with coarse piligerous punctures.

Hairs yellow, erect, and sparse, long on body, shorter on head; very sparse on appendages.

Reddish brown; head and gaster a little darker than the rest.

Santa Cruz: Graciosa Bay, Santa Anna.

Resembles *nova hollandiae* var. *humilior* Forel, from Queensland, but has the head broader and shorter, with the clypeal lobe less produced and with its anterior border broadly rounded instead of truncate; the head is not strongly infuscated as in *humilior*.

A very abundant ant, nesting in cavities of trees and in rotten wood.

- 104a. *CAMPONOTUS* (*MAYRMAMBLYS*) *RETICULATUS* Roger, var.  
*BEDOTI* Emery.

*Camponotus bedoti* Emery, Rev. Suisse zool., 1893, 1, p. 196, f.



FIG. 42.—*Camponotus* (*Myrmoturba*) *maculatus sanctae crucis* Mann. Worker major. Front view of head.

Santa Cruz: Graciosa Bay. Santa Anna. Malaita: Auki. Russell: Yandina. Guadalcanar: Rere. Bio. Florida: Tulagi. Rendova. New Georgia. Rubiana Lagoon.

105. *CAMPONOTUS (COLOBOPSIS) GUPPYI*, sp. nov.

*Soldier.* Length 5 mm.

Head longer than broad, narrowest in front, sides in front of eyes slightly convex, truncated portion separated from the front by a rounded angle. Mandibles 5-dentate. Clypeus two thirds on truncated portion, margined



FIG. 43.—*Camponotus (Colobopsis) guppyi* Mann. Worker major. Lateral view of head, thorax, and petiole.

at sides; the posterior third longitudinally impressed at middle, carinate between this impression and the lateral border; anterior portion with a sharp median carina, anterior border straight. Frontal area broadly triangular. Frontal carinae moderately divergent, extending to a point opposite middle of eyes. Eyes situated on sides of front, back of posterior third of head.



FIG. 44.—*Camponotus (Colobopsis) guppyi* Mann. Worker minor. Lateral view of head, thorax, and petiole.

Antennae stout, their scapes surpassing occipital corners by a distance a little greater than their diameter at tips. Pronotum rather flat, sides rounded. Mesonotum a third broader than long. Mesoëpinotal impression deep and nearly half as long as the basal portion of epinotum. Base of epinotum broader than long and truncate behind; in profile shorter than the concave

declivity, over which it slightly projects. Petiolar node in profile about as long as high with declivous anterior and slightly sloping posterior surface, but little narrowed above; from above about twice as long as broad, with narrowly rounded and submargined sides. Gaster elongate, oval. Legs rather stout.

Moderately shining. Mandibles rugulose striate. Anterior portions of front and cheeks with stout rugose striae. Head subtly, reticulately striate, the remainder with dense, though microscopic striae, which are seriolate on thorax and transverse on gaster.

Head and gaster with a very few erect hairs.

Pale reddish brown, with fuscous blotches on the vertex, lateral blotches on the gaster and dorsal ones on the base of the first, and the middle of the second and margin of the third segments. Antennal scapes infuscated apically; first funicular joint yellowish brown, remainder of funiculus black. Femora dark reddish brown to black, except from a yellowish area on flexor surface; basal three eighths of tibiae yellow-brown the remainder dark brown, almost black.

*Worker (media).* Length 4 mm.

Head a little longer than broad, slightly narrowed in front, with rounded corners and posterior border. Clypeus convex, obscurely carinate at middle, with nearly straight anterior border. Antennal scapes surpassing occipital borders by nearly half their length. Pronotum a little broader than long. Mesonotum longer than broad, separated from epinotum by a broad saddle-shaped impression. Base of epinotum flat; at apex developed as a lamellate projection, deeply concave and elevated and bilobed at tip (somewhat scoop-shaped), in profile projecting over the very concave declivity about as far as the declivity is high. Petiolar scale similar to that of soldier, but more strongly narrowed at sides. Gaster elongate oval.

Less shining, than soldier, very densely and finely and seriolately striate throughout.

Erect hairs very sparse on head and gaster.

Color as in soldier.

*Worker (minor).* Length 3 mm.

Differing from the above in its somewhat longer antennal scapes and in the more extreme prolongation of the lamellate posterior border of the epinotum.

Malaita: Auki.

This extraordinary species is described from a small series of isolated workers and a single soldier, found on leaves at different times about the government residence at Auki and on the trail to Aisisiki.

In the structure of the epinotum it is markedly different from all other species belonging to the subgenus, and the coloration is exceedingly characteristic. *Type*.—M. C. Z. 9,184.

106. CAMPONOTUS (COLOBOPSIS) ELYSI, sp. nov.

*Soldier*. Length 6.5 mm.

Form rather slender.

Head a fourth longer than broad, sides subparallel, border slightly convex. Mandibular blades with four teeth apically and two poorly defined ones basally. Clypeus strongly carinate, somewhat narrowed and with an elevated margin at anterior third of sides, anterior border nearly straight; posterior three eighths above depressed portion barely more than twice as broad as long. Antennal scapes nearly, but not quite attaining occipital corners. Frontal area small, about twice as broad as long; frontal carinae slightly sinuous, moderately divergent, extending to a point about opposite middle of eyes. Eyes smaller than is usual in *Colobopsis*, flat, situated in front of sides, well posterior to middle. Pronotum and mesonotum moderately convex, each broader than long. Thoracic sutures weakly impressed. Base of epinotum broad and convex; declivity slightly concave, the two surfaces broadly rounding into each other. Petiolar node in profile, twice as high as long, narrowed, submargined dorsally; from above, four times as broad as long. Gaster elongate. Legs stout.

Shining. Mandibles finely rugulose and with sparse, large punctures. Clypeus and anterior border of cheeks with short, rugose striae; remainder of head and body subtly and very densely seriolately striolate, with scattered distinct, though fine, punctures on front between carinae.

Pale yellow-brown, the gaster and a spot on vertex darker.

*Worker*. Length 4 mm.

Head a little longer than broad, evenly rounded behind, cheeks parallel. Clypeus convex, rounded anteriorly, not carinate. Antennal scapes surpassing occipital corners by a little less than half their length. Front strongly impressed between the carinae. Frontal carinae short, nearly straight, extending to opposite anterior third of eyes. Base of epinotum compressed and narrowly convex above, about four times as long as broad; in profile narrowly rounded between base and declivity.

Petiolar node cuneiform, with convex anterior and straight posterior surfaces, dorsal margin acute.

Sculpture as in soldier, except that the rugae on clypeus and anterior portion of cheeks are lacking.

Color pale reddish brown throughout.

Three Sisters: Malapaina (Type-locality). San Cristoval: Wainoni Bay.

Near *sommeri* Forel, from New Caledonia and *fictor* Forel from Australia, but with the head much narrower and more elongate.

The San Cristoval specimens are a little darker than those from Malapaina, which may not be fully colored.

107. *CAMPONOTUS (COLOBOPSIS) LOA*, sp. nov.

*Soldier.* Length 4.5 mm.

Head longer than broad, sides subparallel, posterior angles broadly rounded, border convex; rounded between anterior impressed portion and dorsal surface. Mandibles 5-dentate. Clypeus with five eighths of its length on the truncated portion, quadrangular, distinctly margined laterally and straight at anterior border; strongly bicarinate for entire length, the carinae converging anteriorly, and with two lateral carinae on basal three eighths. Frontal area poorly defined, broadly triangular. Frontal carinae slightly divergent, nearly straight, extending to a point a little in front of middle of eyes. Antennal scapes surpassing occipital corners by a distance equal to their width at tips; funicular joint as long as the second and third together.



FIG. 45.—*Camponotus (Colobopsis) loa* Mann. Worker major. Lateral view of head, thorax, and petiole.

The remaining joints, except the terminal, gradually shorter and stouter; terminal joint as long as the two preceding joints together. Eyes large and flat; situated at posterior third of head. Thorax robust. Pronotum but slightly convex above, humeri broadly rounded. Mesothorax rather flat,

one and a third times as broad as long. Base of epinotum moderately convex, about as long as broad, rounding into the declivity, which is flat and a little longer than base. Petiolar scale in profile less than twice as high as thick, slightly convex in front, straight behind and flattened dorsally; from above, twice as broad as long, narrowly rounded and submargined laterally. Gaster elongate, legs stout.

Moderately shining. Mandibles rugulose and striolate. Truncated portion of head more shining than the rest, the impressed surfaces lateral to the clypeus uneven and shallowly punctate. Cheeks anteriorly with a series of short, irregular rugose carinae; the remainder of head shallowly and reticulately punctate. Thorax and abdomen very subtly reticulostriolate.

Head and body with a very few long erect hairs. Fine and short recumbent hairs on head and gaster.



FIG. 46.—*Camponotus (Colobopsis) losa* Mann. Worker minor. Lateral view of head, thorax, and petiole.

Reddish brown; mandibular teeth black; head with a fuscous blotch on apex; basal two thirds of first, and apical two thirds of second and apical one half of remaining gastric segments black.

*Worker (minor).* Length 2.5–3 mm.

Head longer than broad, slightly narrowest in front, occipital corners rounded, border nearly straight. Clypeus large and convex, very obtusely carinate, anterior border shallowly concave at middle. Frontal carinae moderately divergent, extending to a point opposite anterior third of eyes. Antennal scapes surpassing occipital corners by about one third their length. Eyes large, little convex, situated in front of sides a little posterior to middle. Pronotum rather flat above, broadest at middle with sides narrowly rounded. Mesonotum broader than long, moderately narrowed behind, with straight sides. Base of epinotum compressed and narrowly convex; produced at apex as a short slightly projecting connule; declivity concave in profile and a little shorter than the base. Petiole and gaster as in soldier.

Moderately shining. Gaster with very dense, short transverse striolae, the remainder of body and the head subtly and seriolately striolate.

Sparse, scattered, erect hairs, and very fine and short recumbent hairs on head and gaster.

Pale yellow-brown; head posterior to antennal insertions darker, gaster black, each segment with a yellowish band apically.

San Cristoval: Wai-ai (Type-locality). Santa Cruz: Graciosa Bay. Santa Anna. Three Sisters: Malapaina. Ugi: Pawa. Malaita: Auki.

Described from numerous soldiers and workers taken from colonies nesting in hollow vines at Wai-ai and from workers and soldiers found running on leaves. There is considerable variation in the amount of infuscation on the head and the Malapaina and Auki specimens are pale in color, perhaps being varietally different, but more probably not fully colored.

*Camponotus loa* is near *C. conithorax* Emery, from the New Hebrides, but differs in size, color, and in the more convex base of epinotum. *Camponotus conica* Mayr. from Tonga has the epinotum similarly shaped in the worker but the petiolar node is armed with two spines. Type.—M. C. Z. 9,185.

107a. CAMPONOTUS (COLOBOPSIS) LOA Mann, var. BELLI, var. nov.

Several workers and soldiers found running about on the trunks of a recently felled tree agree in habits and sculpture with the type form, but in the soldier the front of head, the cheeks, thorax, epinotum, and petiole, and the middle and hind femora are dark brown, almost black. The anterior femora are mostly black, but blotched with yellowish brown. The light-colored bands on the otherwise black gaster are much narrower. The worker is black, except on the extreme anterior border of clypeus, the mandibles, antennae, tibiae, and tarsi, which are pale brown.

Florida: Tulagi.

108. POLYRHACHIS (HEDOMYRMA) SANTSCHI, sp. nov.

Worker. Length 5 mm.

Head longer than broad, broadly rounded behind, sides in front of eyes moderately convex. Clypeus subcarinate at middle, broadly sloping at sides, bidentate at middle of anterior border. Antennal scapes surpassing occipital corners by more than half their length. Pronotum longer than broad, slightly convex in profile, margined laterally; humeral spines broadened basally with the inner corners angulate, apical three fourths slender, compressed and acute at tips; extending forward and outward and bent downward. Mesonotum and basal portion of epinotum flat in front, shallowly concave between the spines, together shorter than the declivity; spiracular tubercles at margin of



declivity large. Epinotal spines long, stout at basal two fifths, then slender; little divergent, their distance apart at tips about equal to their length, directed backward and upward. Petiole broader than long, sloping above, anterior border straight, posterior border curved and at middle subgibbous; spines rather thick at basal half, slender apically, a third longer than their distance apart at base, extended parallel to sides of first gastric segment.

Moderately shining. Mandibles finely striate. Head, thorax, and base of epinotum with strong, regular and entire striae, which are transverse on posterior portion on cheeks, oblique on clypeus, and longitudinal on thorax and epinotum. Epinotal declivity and posterior surface of petiole rugose. Gaster finely and densely rugulose.

Front and vertex with very sparse, long, erect hairs. Head and thorax with a thick covering of rich golden pubescence.

Black throughout.

Florida: Maliali.

Described from a unique worker. The curious, strong, and regular sculpture and the slender downward, curved humeral spines are very characteristic.

108a. *POLYRHACHIS (HEDOMYRMA) SANTSCI* Mann, subsp. CAMPBELLI, subsp. nov.

Several workers differ from the typical form in having the golden pubescence on gaster more dense, the petiolar spines shorter and in the sculpture of the head. The striae of vertex extend longitudinally back to the posterior border of the occiput at the middle where they are met obliquely by transverse striae that extend down the sides of the occiput and cheeks. In *santschi* the occipital region is transversely striate.

Russell: West Bay.

In both forms of the species the epinotal spines are strongly longitudinally striate on the basal half. *Type*.—M. C. Z. 9,192.

109. *POLYRHACHIS (HEDOMYRMA) GEMINATUS*, sp. nov.

*Worker*. Length 5 mm.

Head slightly longer than broad, sides in front of eyes feebly convex, posterior border broadly rounded. Clypeus convex, obtusely carinate; lobed and acutely bidentate at middle of anterior border. Frontal carinae not widely separated, moderately elevated, parallel behind. Eyes convex, situated at

posterior corners of head. Pronotum narrowly margined at sides, one and one third times broader than long, broadest behind; sides convex at posterior two thirds, in front concave; humeri developed as broad, lamellate lobes with elevated margins, apically concave and bidentate, the outer tooth elongate and spinose, the inner one rounded at tip. Mesoepinotum without suture or constriction, much shorter than pronotum, flat except between spines where it is concave. Basal and declivous portions of epinotum rounding into each other; declivity much longer than base. Epinotal spines less than twice as long as their distance apart at base, stout, rather strongly curved downward. Petiolar node in profile with anterior and posterior surfaces subparallel; dorsal surface slightly convex, less than twice as broad as long, separated from posterior surface by an obtuse margin; spines a little shorter than their distance apart at base, stout, arcuate.

Sublucid. Mandibles finely striate. Clypeus with fine oblique striae. Head, thorax, and epinotum with regular, slightly rugose striae, which are longitudinal except on sides of pronotum where they are oblique. Petiolar node finely striate. Gaster densely and rather coarsely and rugosely striate longitudinally. Legs and antennae finely punctate.

Erect hairs coarse, very sparse on head and apical portion of gaster. Head and body, with sparse, recumbent pubescence.

Black throughout.

Florida: Maliali.

Described from a unique worker.

The species is distinguished by the short, upturned, and bifurcate humeral spines, and the strong sculpture of the gaster.



FIG. 47.—*Polyrhachis* (*Hedomyrma*) *geminatus* Mann. Worker. Thorax and petiole from above.

#### 110. *POLYRHACHIS* (*HEDOMYRMA*) *ANNAE*, sp. nov.

*Worker.* Length 4.5–5 mm.

Head distinctly longer than broad, evenly rounded behind, sides in front of eyes nearly straight, somewhat convergent. Clypeus evenly and moderately convex, the anterior border bidentate and shallowly concave at middle. Frontal carinae only slightly divergent, extending to opposite middle of eyes. Scapes surpassing occipital border by more than two thirds of their length.

Pronotum broader than long, broadest behind middle, margined at sides; humeral spines flat, acute at tips, divergent, and pointing slightly upward. Mesoepinotum broadest in front, sides margined, converging to base of spines, surface between spines shallowly concave, in front nearly flat. Spines flattened and margined basally, slender apically and acute at tips, a little longer than their distance apart at base, moderately divergent and extending slightly upward. Petiole nearly flat, about the anterior border truncate; posterior border feebly rounded and slightly elevated and subgibbous at middle; spines slender, parallel with sides of gaster, slightly longer than their distance apart at base.

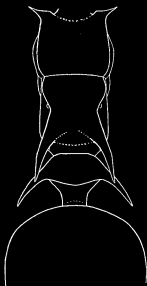


FIG. 48.—*Polyrhachis (Hodomyrma) annae* Mann. Worker. Thorax and petiole from above.

Moderately shining. Mandibles densely striate.

Head and pronotum densely rugulose-striate the latter more coarsely and with the striae more regular. Mesoepinotum broadly and shallowly and reticulately striate, petiole and first gastric segment densely punctate.

Front and vertex with paired, erect setae. Head and pronotum with rather thin pubescence and mesoepinotum, petiole, and first gastric segment with thicker very fine pubescence, silvery except on gaster where it is golden.

Black; appendages dark brownish red.

Santa Cruz: Graciosa Bay (Type-locality). San Cristoval: Pamua, Wainoni Bay. Three Sisters: Malapaina.

Described from workers in a colony that rested in earth among the suckers of an epiphyte and others taken on leaves and tree-trunks. *Type*.—M. C. Z. 9,193.

This species is common and widely distributed, but the colonies nest usually high in trees and are difficult to find.

#### 111. *POLYRHACHIS (MYRMOTHRINAX) DAHLI* Forel.

Mitt. Zool. mus. Berlin, 1901, 2, heft 1, p. 30, ♀.

San Cristoval: Wainoni Bay. Three Sisters: Malapaina. Malaita: Auki. Florida: Tulagi.

Rare, though evidently of wide distribution. The workers in a small series before me are a little smaller (length 6 mm.), but otherwise agree closely with Forel's description, based on Bismarck Archipelago specimens.

112. *POLYRHACHIS (MYRMA) SALOMO* Forel.

Rev. Suisse zool., 1910, 18, p. 87, ♀.

Malaita: Auki. Russell: West Bay, Yandina.

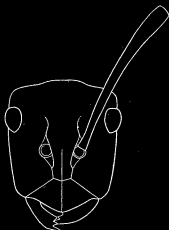


FIG. 49.—*Polyrhachis (Myrma) salomo* Forel. Worker. Front view of head.

Nests usually in crevices of logs of trees, and builds partitions and protecting walls of silk interwoven with vegetable material. One colony was found beneath a stone.

113. *POLYRHACHIS (MYRMA) SIMILIS* Viehmeyer.

Abh. berichte K. zool. anthr.-ethn. mus. Dresden, 1912, 14, no. 1, p. 8, ♀.

San Cristoval: Wai-ai, Pamua, Wainoni Bay, Star Harbor. Bio. Ugi: Pawa. Florida: Tulagi, Maliali. Ysabel: Fulakora. Russell: West Bay, Yandina. New Georgia. Rubiana Lagoon.

Probably the most conspicuous ant in the islands. Foraging workers were on nearly every tree examined. The colonies are in tree-cavities.

- 114a. *POLYRHACHIS* (*Myrma*) *RELUCENS* Latreille, subsp. *ANDROMACHE* F. Smith, var. *NESIOTIS*, var. nov.

*Worker.*

Differing from subsp. *andromache* in having the legs darker in color, dark red, with the femora in part and the tibiae infuscated and the tarsi black.

Santa Cruz: Graciosa Bay.

This variety, the only one of the *relucens* group found at Graciosa Bay is exceedingly abundant and very large series were obtained, all of which are constant in coloration. It nests in crevices of trees and in hollow fern-stalks. *Type*.— M. C. Z. 9,194.



FIG. 50.— *Polyrhachis* (*Myrma*) *relucens andromache nesiotis* Mann. Worker.

- 114b. *POLYRHACHIS* (*MYRMA*) *RELUCENS* Latreille, subsp. *LITIGIOSA* Emery.

Ann. Mus. civ. stor. nat. Genova, 1897, 38, p. 581, ♀.

Ysabel: Fulakora.

Numerous colonies were found nesting in rotten logs. Some of the cavities used as brood chambers were lined with silk.

Pinned specimens are very liable to grease and many among my series have the gaster black in appearance due to this, which hides the rich golden pubescence characteristic of the subspecies.

115. POLYRHACHIS (*CHARYOMYRMA*) RERE, sp. nov.

*Worker.* Length 3.5-4 mm.

Head a little longer than broad and somewhat narrowed in front, sides in front of eyes feebly convex, posterior border broadly rounded. Clypeus carinate, front lobed, the middle portion concave and obtusely dentate at sides. Front carinate at middle between frontal carinae. Frontal carinae widely separated, moderately elevated and little divergent behind. Eyes strongly



FIG. 51.—*Polyrhachis (Charyomyrma) rere* Mann. Worker. Lateral view of thorax and petiole.

convex, situated at posterior corners of head. Pronotum twice as broad as long, slightly convex, narrowly margined at sides; humeri with small triangular teeth that are a little longer than broad. Meso- and epinotum without suture, flat above, narrowly margined at sides. Base of epinotum very broadly rounding into the declivity. Epinotal spines a little longer than half their distance apart at base, slender, divergent, and nearly straight. Petiolar node with flat anterior and posterior surfaces, strongly narrowed and submargined above; seen from the front, the border is obtusely angulate at middle; spines short, rather stout, arcuate, and parallel with base of gaster.

Opaque, except gaster which is moderately shining. Mandibles with coarse, separated striae and, at apex, large punctures. Head densely striolate-rugose. Thorax and epinotum similarly but not as coarsely sculptured. Epinotal and petiolar spines and dorsal margin of petiole shining and rugose. Gaster, legs, and antennae densely punctate.

Fine, long, erect pile, abundant on head, body, and appendage, and rather long, appressed silvery pubescence on head and body, thick on gaster and sparser elsewhere.

Black throughout.

Guadalcanar: Rere.

## 116. POLYRHACHIS (CHARYOMYRMA) KAIPI, sp. nov.

*Worker.* Length 5 mm.

Head a little longer than broad, sides convex, posterior border broadly rounded. Mandibles with four large teeth. Clypeus carinate; anterior border lobed and concave at middle. Frontal carinae short, the anterior two thirds strongly laminate. Eyes moderately convex; situated at posterior thirds of sides. Pronotum twice as broad as long; disc feebly convex; sides and anterior border, except at middle, broadly lamellate, and moderately elevated, humeral spines triangular and acute. Promesonotal suture narrowly impressed. Mesonotum broader than long, broadest in front, sides lamellate and elevated similar to but not as broadly as on pronotum. Base of epinotum lower than mesonotum and distinct from it, though the suture is feebly impressed; surface flat, twice as broad as long, acutely margined at sides; broadly rounding into the flattened declivous portion which, in profile, is three times as long as base; spines about as long as their distance from base to promesonotal suture; thick basally and becoming slender apically, slightly curved downward, directed backward and moderately divergent. Petiole narrowly rounded above, the spine slender, about as long as those of epinotum and encircling base of gaster. Gaster short and ovate.



FIG. 62.—*Polyrhachis* (*Charyomyrma*) *kaipi* Mann. Worker. Thorax and petiole from above.

Strongly shining. Mandibles with regular, dense rather coarse striae. Clypeus with irregular, broad punctures, some of them confluent. Head striate, the striae strong and longitudinal on sides and cheeks, transversely arcuate above and obsolete on the median portion of vertex and occiput; striae of front finer and very irregular;

vertex with coarse, piligerous punctures. Thorax and abdomen not striate, but with widely separated, foveolate punctures, similar to those on vertex.

Epinotum and posterior surface of petiole with a thin mat of long, silky, semirecumbent hairs, and long, erect pile, the remainder with erect, very long, fine, and rather abundant pilosity, shortest on the head and appendages, but lacking the mat of shorter semirecumbent hairs.

Black; appendages dark reddish brown.

Pilosity yellowish.

Malaita: Auki.

Described from a unique worker.

This species is near *P. scutulatus* F. Smith, from Aru. It agrees with Smith's description except that the epinotum of *kaipi* is not opaque, but shining. Emery has described and figured (Rev. Suisse zool., 1893, 1, p. 226, fig. 7-8) a New Guinea specimen that he considers *scutulatus*. In his figure of the head, the frontal carinae are broadly curved at sides, the thorax is distinctly broader than the head; the mesonotum is not distinctly separated from the epinotum and is more than twice as broad as long; in *kaipi* the frontal carinae are narrowly curved, the thorax is barely broader than the head and the mesonotum is less than twice as broad as long. The epinotal and petiolar spines of *kaipi*, as well as the humeral spines are very much longer than in *scutulatus*. *Polyrhachis aurita* Emery, also closely related, has the thorax proportionally very much broader, and is differently sculptured with the epinotal declivity and posterior surface of petiole striate, instead of smooth as in *kaipi*.

117. POLYRHACHIS (MYRMATOPA) ULYSSES Forel.

Rev. Suisse zool., 1910, 18, p. 91, ♀.

*Female.* Length 10 mm.

Ocelli very small. Mesonotum convexly declivous at anterior third; posterior two thirds slightly convex and narrowly and very feebly margined at sides. Scutellum transversely oval. Prescutellum with weakly margined



FIG. 53.—*Polyrhachis (Myrmatopa) ulysseus* Forel. Petiole from front.

anterior border. Base of epinotum thinly margined at sides, the margins lacking the anterior angulate structure found in the worker, spines more slender than in the worker. Petiole similar to that of worker. Wings (length 9.5 mm.) clear, veins and pterostigma brown.



Florida: Tulagi, Maliali.

A handsome species, conspicuous because of the white tips to the antennae. It is much less common than the following related species.

118. *POLYRHACHIS (MYRMATOPA) OSAE*, sp. nov.

*Worker.* Length 6.75-7.5 mm.

Head in structure very similar to that of *ulysses*. Pronotum convex; humeri with indistinct denticulae. Mesonotum margined at sides, the margins elevated into broad, subtriangular lobes; surface concave between lobes, behind declivous to the mesoepinotal suture. Epinotum bluntly margined



FIG. 54.—*Polyrhachis (Myrmatopa) osae* Mann. Worker.



FIG. 55.—*Polyrhachis (Myrmatopa) osae* Mann. Worker.

at sides; margins somewhat elevated, but not angulate in front, spines short and triangular; declivity sloping, much longer than base, with rather flat surface. Petiole as in *campbelli* but the spines shorter and less divergent (their distance at tips about equal to their length).

Gaster very shining, the rest moderately shining except the head, which is nearly opaque. Mandibles punctate and striolate. Clypeus shallowly, cribrately punctate, except for a space near the base. Head rugulose punctate. Thorax, epinotum, and petiole shallowly punctate and reticulate, the petiole more coarsely than the rest. Antennae and legs finely striolate, punctate.

Short, erect hairs present on funiculus and very fine and short appressed ones on clypeus and gaster and a pair of erect setae on sides of basal portion of clypeus.

Black. Mandibles and legs obscurely rufous last six joints of antennae pale yellow-brown.

*Female.* Length 8 mm.

Head as in worker. Ocelli small. Mesothorax slightly convex above; rounded at sides, with distinct parapsidal

furrows. Scutellum a little broader than long, with nearly straight anterior border. Basal portion of epinotum roundly margined at apical half; spines as in worker. Petiole similar to that of worker.

Feebly shining, with sculpture as in worker.

Color as in worker. Wings weakly infuscated; veins and pterostigma brown.

Ugi: Pawa (Type-locality). San Cristoval: Wai-ai, Pamua, Wainoni Bay.

Closely related to *P. ulyssees* Forel, but distinct in epinotal structure and in the form of the petiolar spines, which are not as long and are very much less divergent than in that species. The thorax is also much more shining in *osae* than in *ulysses*. *Type*.—M. C. Z. 9,191.



FIG. 56.—*Polyrhachis (Myrmatopa) osae* Mann. Worker. Petiole from front.

This species, which is named for Mrs. Osa Martin-Johnson, the first American woman to travel in the Solomons, is a characteristic species of the extreme eastern end of the group. The nests, built on leaves, usually on palm trees, are of *carton*, strengthened and lined, as well as fastened to the leaf by silk, and are very common objects in the forest. If a leaf bearing a nest is broken off and laid on the ground the ants rush out, but soon enter the nest again and will remain there, even though the nest be placed in a coat pocket and carried. I examined large numbers of nests of this, as well as other species of *Polyrhachis*, in search of inquilines, without finding any.

On several occasions I found two dealated females of *osae*, together with larvae, in very small nests, which indicates that the colonies are sometimes started jointly by more than one queen.

Nests are shown on Plates 1, 2.

119. *POLYRHACHIS* (*DOLICORHACHIS*, subgen. nov.) *MALAËNSIS*,  
sp. nov.

*Worker.* Length 6.5–7.5 mm.

Head oval, longer than broad, rather narrowly rounded behind. Cheeks evenly convex. Mandibles 5-dentate. Clypeus distinctly carinate at middle; anterior border notched at middle and angulately toothed at either side of notch. Frontal carina narrow, moderately elevated, not divergent, extending to opposite middle of eyes. Antennae long and slender. Eyes small, convex, situated in front of side at posterior fourth of head. Thorax slender, flat above, sides strongly, angulately margined, but not laminate. Pronotum longer than broad, humeri with slender curved spines as long as their distance from base to promesonotal suture, directed forward and upward and moderately divergent. Promesonotal suture very distinctly, though narrowly



FIG. 57.—*Polyrhachis* (*Dolichorhachis*) *malaënsis* Mann. Worker. Lateral view of thorax and petiole.

impressed. Mesonotum longer than broad, narrowed behind; sides in front convex, behind concave. Mesoepinotal suture indicated by a distinct transverse carina. Base of epinotum quadrate, longer than broad, with straight, sharply margined sides, concave between spines and evenly rounding into the declivity; declivity with convex surface, about as long as base. Spines long and very slender, extending backward and slightly upward and but little divergent. Petiolar node thick, anterior face in profile straight and forming a prominent blunt angle with the flat dorsal surface; posterior surface convex; spines very slender, longer than those of epinotum, moderately divergent, extending backward and upward and curved inward. Gaster broadly oval. Legs slender.

Subopaque. Mandibles densely rugulose and striate apically. Clypeus and head rugulose striate, the striae dense, oblique on clypeus and longitudinal on head. Thorax, epinotum, and petiole striate similar to head. Gaster

very finely and densely punctate and striate. Appendages finely and densely punctate.

Antennae and tibiae pollinose, head and body clothed densely with fine, short, silky, glistening silver pubescence.

Color black throughout.

*Female* (decalated). Length 9 mm.

Ocelli very small. Thorax and epinotum slender, but much shorter than in the worker. Otherwise similar to worker with the usual sexual modifications.

Malaita: Interior near Gwountafu.

Described from two workers and a female found in the ground near our camp fire, at an altitude of about 2,200 feet.

The elongate form and the arrangement of the spines are similar to *P. phyllophila* F. Smith and related Oriental species included in the subgenus *Myrmhopla*. However the margined thorax and epinotum do not permit including it in this subgenus and make the erection of *Dolichorhachis* necessary.

120. *POLYRHACHIS (MYRMHOPLA) WHEELERI*, sp. nov.

*Worker*. Length 6.-6.5 mm.

Head a little longer than broad, broadly rounded behind eyes; sides in front of eyes slightly convex. Mandibles 5-dentate. Clypeus obtusely, though distinctly carinate, with an anterior median lobe, separated from the rest by



FIG. 58.—*Polyrhachis (Myrmhopla) wheeleri* Mann. Worker.

a moderately impressed transverse suture, and strongly bidentate. Frontal area indistinctly defined. Frontal carinae, short, extending to opposite middle of eyes, strongly and angulately elevated behind antennal insertions. Eyes strongly convex, situated at posterior third of sides. Antennae long, thorax robust. Pronotum slightly convex above, not margined, with long,

rather stout straight spines extending forward, upward, and outward. Promesonotal suture narrow. Mesoepinotal impression very feeble. Base of epinotum twice as broad as long, slightly convex between the spines which are stout, about one and one half times as long as pronotal spines, moderately divergent, extending backward and upward and very feebly curved at apical half. Petiolar node in profile evenly convex in front, nearly straight behind; spines stout, strongly curved upward and backward, but not sufficiently divergent to encircle base of gaster, with two stout, triangular acuminate teeth between. Gaster very broadly oval.

Mandibles moderately shining, striolate, with elongate punctures; apically, with several fovolate punctures. Head, thorax, epinotum, and petiole opaque, coarsely and densely reticulately rugose; spines strongly striate and rugose. Gaster shining, finely and regularly punctate. Antennal scapes densely punctate. Legs transversely striolate.

Funiculus pollinose. Gaster with sparse, very fine, and short recumbent hairs. Other hairs absent except a few setae on front of head and clypeus. Black; legs very dark ferruginous.

Malaita: Near Auki, on trail to Aisisiki. Ysabel; Fulakora.

One large colony was found in each locality. The Malaita nest was built on the under side of an agave leaf, mostly of silk but with a few strands of vegetable material through it, and resembled an inverted tent. The colony at Fulakora was in a triangular nest made of two leaves connected by a sheet of silk. Partitions of pure silk divided the interior into three chambers. *Type*.—M. C. Z. 9, 188.

When I shook the bush on which this was situated the workers rushed out and grouped themselves on the top of the nest, standing with the thorax elevated, and the gaster shoved forward, and kept the antennae and the forelegs waving. They made an appreciable amount of noise when they rushed about, the nest serving as a sounding box.

This species resembles *armata* F. Smith in *habitus* but is a much smaller form, with shorter pronotal spines, finer thoracic sculpture and very shining gaster.

#### 121. POLYRHACHIS (MYRMHOPLA) ARGENTEA Mayr.

Verh. K.K. zool.-bot. gesellsch. Wien, 1862, 12, p. 682, ♀.

Malaita: Auki. Florida: Maliali.

I found *argentea* only on two occasions. A small colony at Auki was in a nest made of two leaves fastened together with silk, similar

to the one described by Wroughton (Journ. Bombay nat. hist. soc., 1892, 7, p. 37).

My specimens agree perfectly with Mayr's description and with workers from the Philippines.

122a. POLYRHACHIS (CYRTOMYRMA) RASTELLATA (Latreille), var.  
FULAKORA, var. nov.

*Worker.* Length 6.5 mm.

A very large series of workers from many colonies agree with *rastellata* in structure, having the pronotum broadest in front and with rounded humeri, the epinotum entirely without spines and the lateral spines of the petiole well-developed and acute, but differ in the color of the legs, which are very dark reddish brown, instead of blood-red. This difference is constant throughout the series and warrants this variety.

*Ysabel:* Fulakora.

Stitz (Sitzungsb. Gesellsch. nat. freunde Berlin, 1911, p. 381) describes *rastellata* var. *major* as larger than the typical form and with dark brown legs. He does not give the length. The humeri of his variety are more angular than in *rastellata*. In var. *fulakora* they are rounded as in the type form. The epinotum in *fulakora* is more convex in profile rather similar to subsp. *euryala* F. Smith from Java as figured by Vieh-meyer (Archiv naturg., 1913, p. 52). *Type*.—M. C. Z. 9,189.

122b. POLYRHACHIS (CYRTOMYRMA) RASTELLATA Latreille, subsp.  
UGIENSIS, subsp. nov.

*Worker.* Length 5.5–6 mm.

The specimens from the eastern Solomons represent still another form of this variable species, characterized by the shorter spines of the petiole, which in some specimens have the lateral ones reduced to mere angles, and in the color of the legs. The femora and the tibiae are reddish brown, with the bases of the latter and the tarsi black. The antennae are black, except the extreme tip of the last segment, which is brown.

Nests are figured on Plate 2, fig. 1, 2.

*Ugi:* Pawa. San Cristoval: Wai-ai, Pamua, Wainoni Bay. Three Sisters: Malapaina.

The different forms of *rastellata* build nests of vegetable fibres interwoven with silk, selecting as a site the tip of a leaf, usually that of a palm. The sides of the leaf are drawn somewhat together and fastened with silk form a partial and sometimes an entire covering of the nest. *Type*.—M. C. Z. 9,190.

122c. POLYRHACHIS (CYRATOMYRMA) RASTELLATA Latreille, var. JOHNSONI, var. nov.

*Worker*. Length 7 mm.

Resembling *laevior* var. *debilis* Emery in having on the epinotum a pair of distinct though very short and small spines. It is much larger in size than *debilis* and the legs are uniformly dark brown, almost black.

The thorax is evenly arched, much as in *leonidas* Forel and the epinotal declivity in profile is straight.

*Rendova*.

One colony was found, in a silk and carton nest on a palm leaf. *Type*.—M. C. Z. 9,195.

123. POLYRHACHIS (CYRATOMYRMA) EMERYANA, sp. nov.

*Worker*. Length 5 mm.

Head a little broader than long, broadly rounded behind and rather strongly narrowed in front. Clypeus only moderately convex, shallowly concave at middle of anterior border. Frontal carinae little divergent, extending to



FIG. 59.—*Polyrhachis (Cyratomyrma) emeryana* Mann. Worker. Lateral view of thorax and petiole.

opposite middle of eyes, in profile elevated and evenly rounded in front. Antennal scapes surpassing occipital corners by about five eighths of their length. Pronotum broader than long, strongly convex above. Mesoepinotum

little convex, the suture indicated by a very shallow and indistinct impression; subangulate between base and declivity. Epinotal spines nearly straight, a little shorter than their distance apart at base. Petiolar node subtriangular in profile, the dorsal edge margined and bearing four spines, the inner pair of which are triangular, as broad basally as long, and the outer elongate-triangular, acute apically and four times as long as the inner pair.

Moderately shining. Finely coriaceous and with minute punctation.

Very fine and short recumbent pubescence thinly distributed on head, body, and appendages.

Color black.

Malaita: Auki.

Described from a unique worker.

This species is near *leonidas* Forel, but is distinctly smaller, the meso-epinotum is much less convex, the spines smaller and more cylindrical and the outer pair of petiolar spines very much longer in proportion to the inner pair than in a cotype of *leonidas* in Professor Wheeler's collection.



